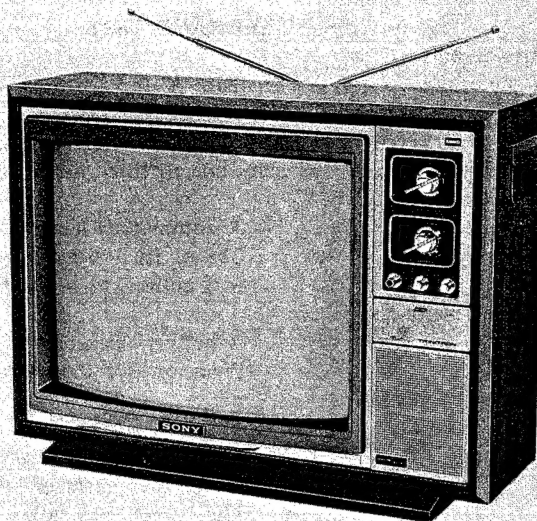


KV-2101

USA Model

Chassis No. SCC-100D-A



Note: Telescopic dipole antenna is an optional accessory.

**TRINITRON®
COLOR TV**

SPECIFICATIONS

Television System:	American TV standards	Anode Voltage:	25 kV at zero beam current
Color System:	NTSC	Power Requirements:	120 V ac, 60 Hz
Picture Tube:	53.3 cm, 21" (measured diagonally), 114° deflection TRINITRON system	Power Consumption:	165 W (max)
Semiconductors:	1 FET, 34 transistors, 40 diodes, 8 ICs and 1 GCS (Gate Controlled Switch)	Dimensions:	702 (w) x 510 (h) x 414 (d) mm 27 ⁵ / ₈ (w) x 20 ¹ / ₈ (h) x 16 ¹ / ₄ (d) inches
Antennas:	VHF: 300 Ω balanced (telescopic dipole) 75 Ω unbalanced (including slide switch) UHF: 300 Ω balanced (loop antenna *)	Net Weight:	35 kg (77 lb 3 oz)
	* Note: Supplied with accessories	Accessories:	Earphone (ME-20B) UHF loop antenna (AN-15)
Channel Coverage:	VHF channels: 12 – 13 UHF channels: 14 – 83 (70-position detent tuner)	WARNING!! TO ELIMINATE SHOCK HAZARD AND PROTECT EQUIPMENT WHEN SERVICING THE SET WITH THE COVERS REMOVED, MAKE SURE THAT THE SET IS PLUGGED INTO A SUITABLY-RATED ISOLATION TRANSFORMER.	
Intermediate Frequencies:	Picture i-f carrier: 45.75 MHz Color subcarrier: 42.17 MHz Sound i-f carrier: 41.25 MHz		
Sound System:	4.5 MHz intercarrier Output power: 2 W (at 10% harmonic distortion) Speaker: 10 cm (4 inches) dia, 8 Ω	X-RAY RADIATION WARNING!! REPLACE COMPONENTS IDENTIFIED ON THE SCHEMATIC DIAGRAMS BY SHADING WITH SONY PARTS HAVING THE PART NUMBERS GIVEN IN THIS MANUAL, OR APPROVED SUPPLEMENTS, ONLY. CHECK HIGH VOLTAGE USING THE VALUE AND OPERATING CONDITIONS SHOWN ON THE SCHEMATIC DIAGRAM.	
Video System:	RGB cathode drive		
Automatic Controls:	ABL (automatic brightness limiter) ACC (automatic color control) ACK (automatic color killer) ADG (automatic degaussing) AFC (automatic frequency control) AFT (automatic fine tuning) AGC (automatic gain control) ANC (automatic noise canceller) AVR (automatic voltage regulator)		

SONY

SERVICE MANUAL

SONY®
SERVICE MANUAL

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metalized" knobs, screws, and all other exposed metal

parts for AC leakage. Check leakage as described below.

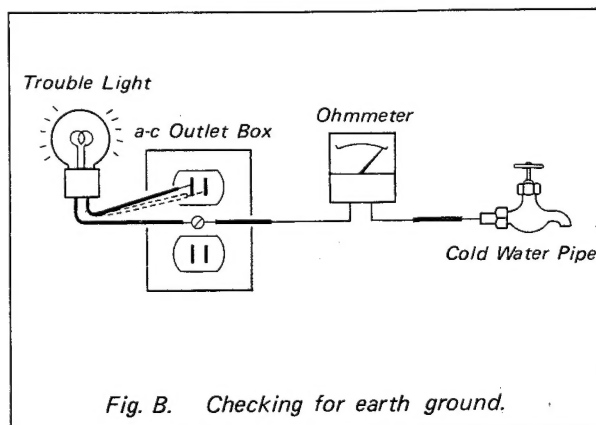
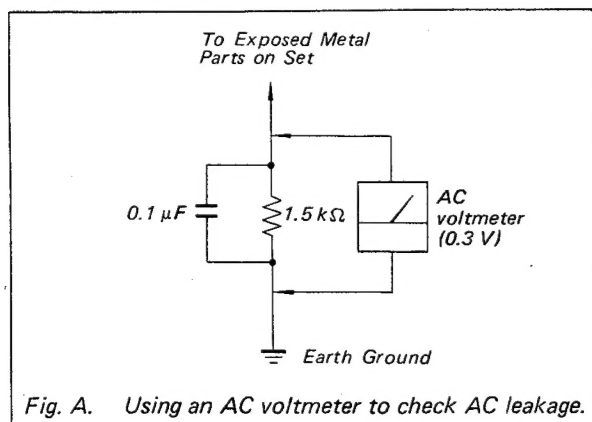
LEAKAGE TEST

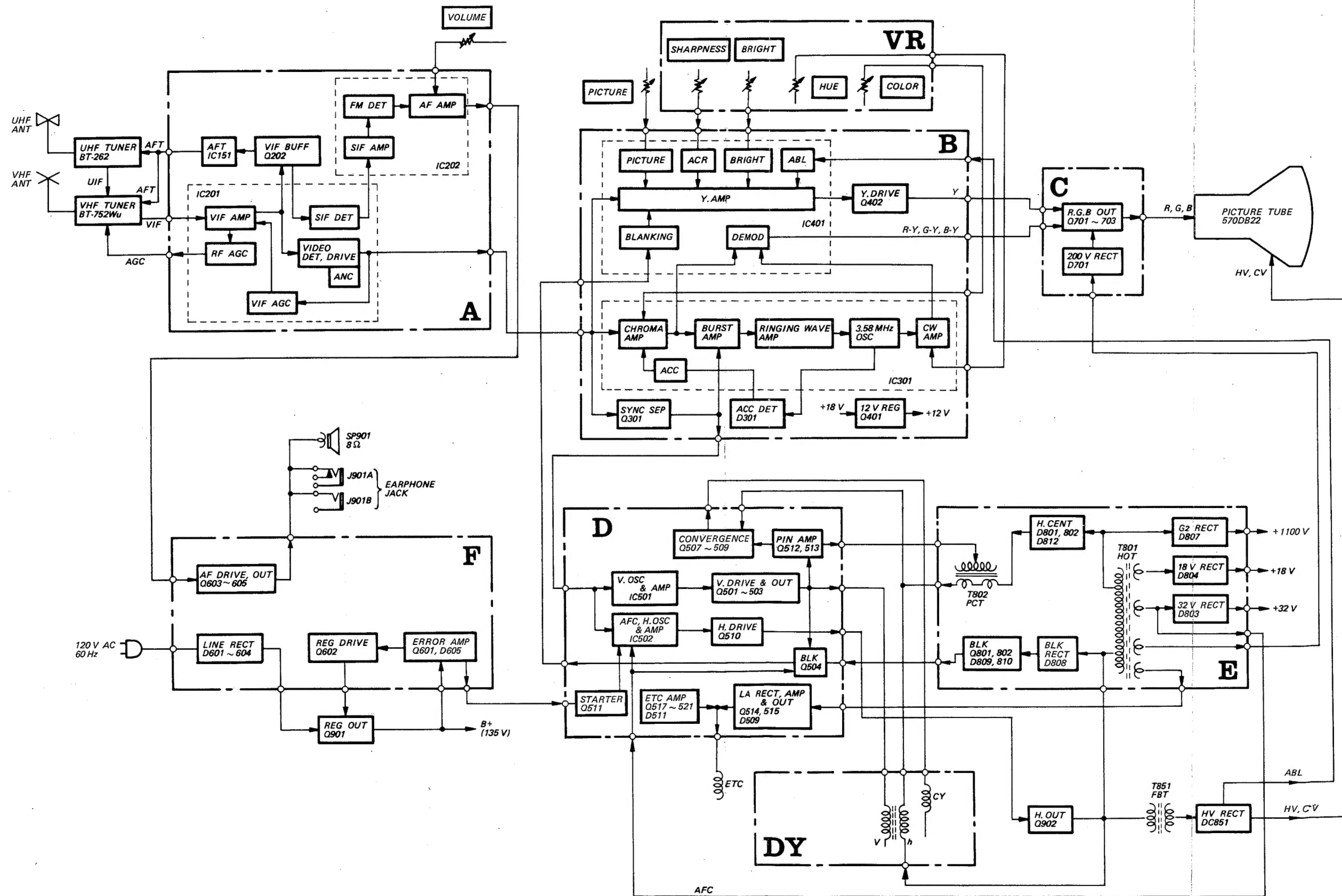
The AC leakage from any exposed metal part to earth ground must not exceed 0.2 mA (200 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.3 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A.)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most a-c outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60 – 100 watt trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line. The lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B.)



SECTION 1
BLOCK DIAGRAM

SECTION 2

DISASSEMBLY AND REPLACEMENT

Note: All screws in this set are Phillips (cross recess) type unless otherwise noted.

2-1. PICTURE TUBE REMOVAL

Perform the procedures in numerical order as shown in Fig. 2-1.

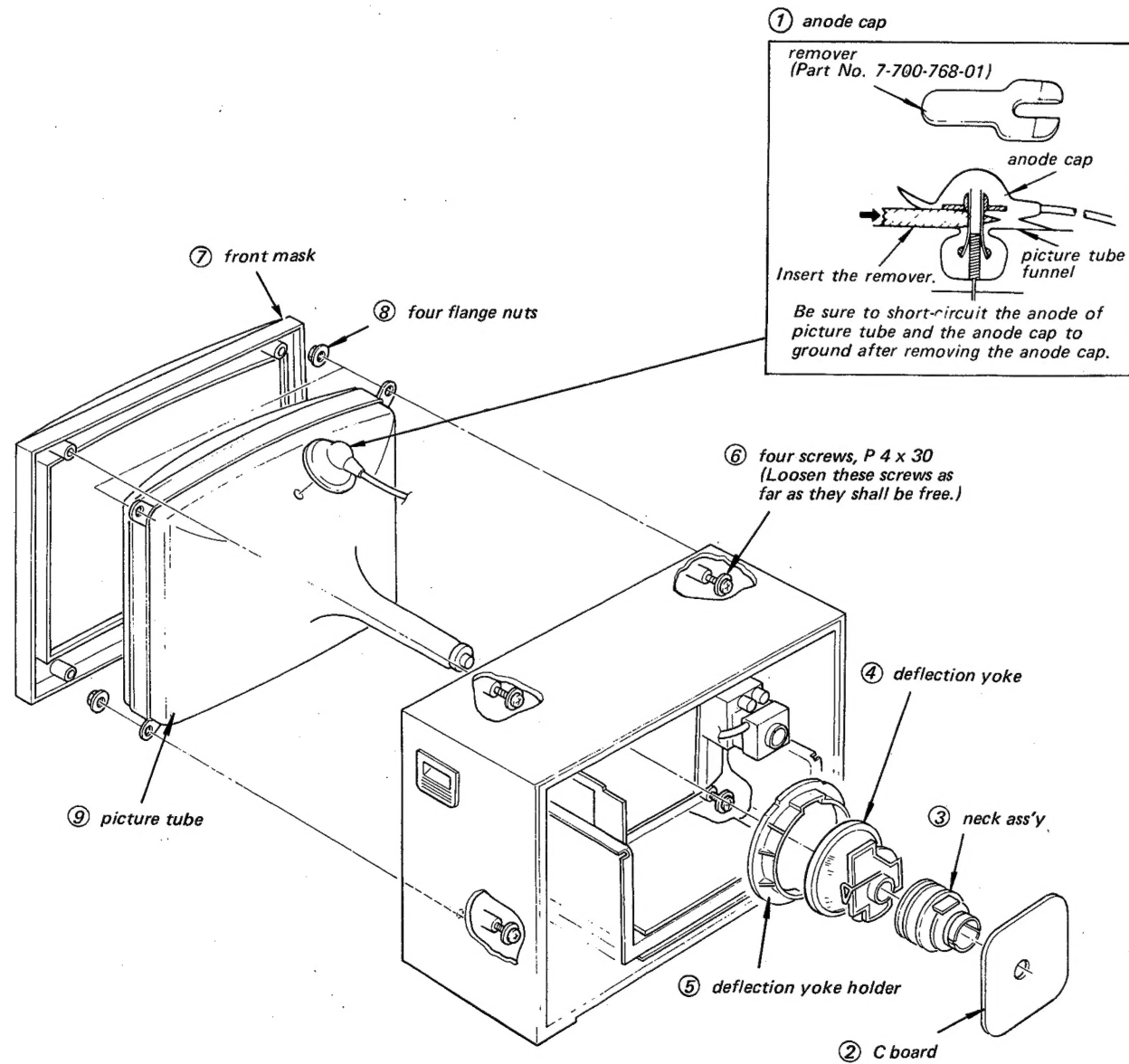


Fig. 2-1. Picture tube removal

2-2. CHASSIS REMOVAL

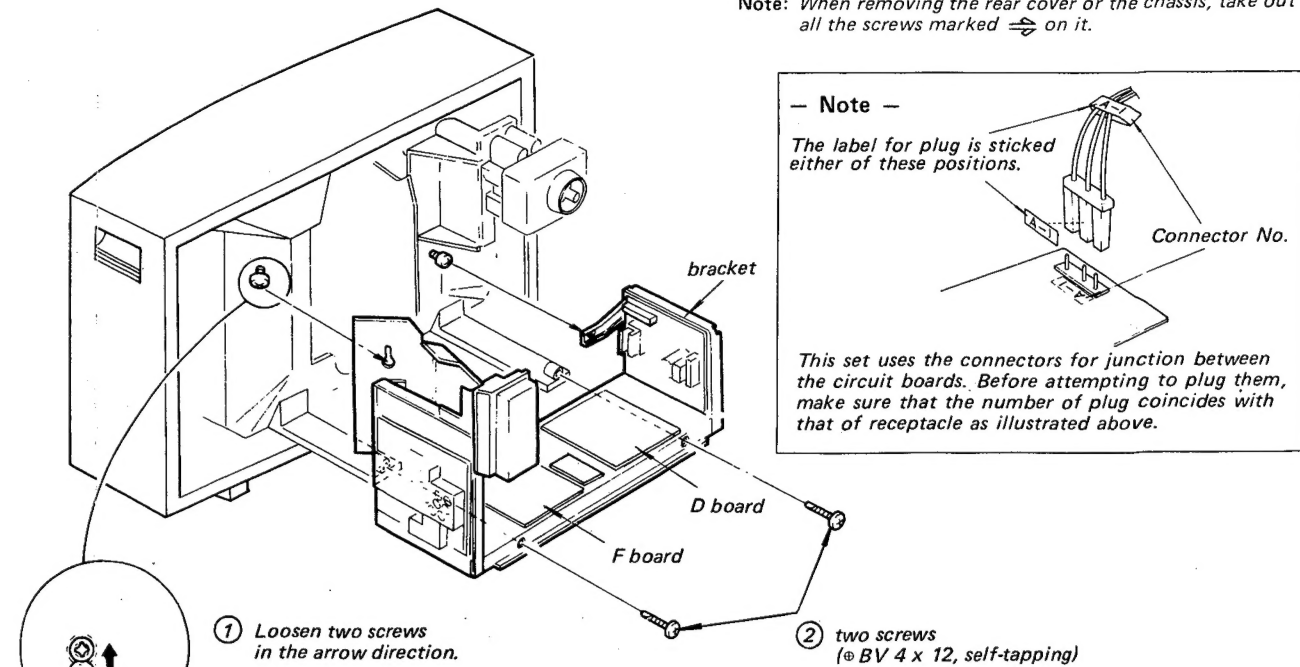


Fig. 2-2. Chassis removal

2-3. CIRCUIT BOARDS CHECK

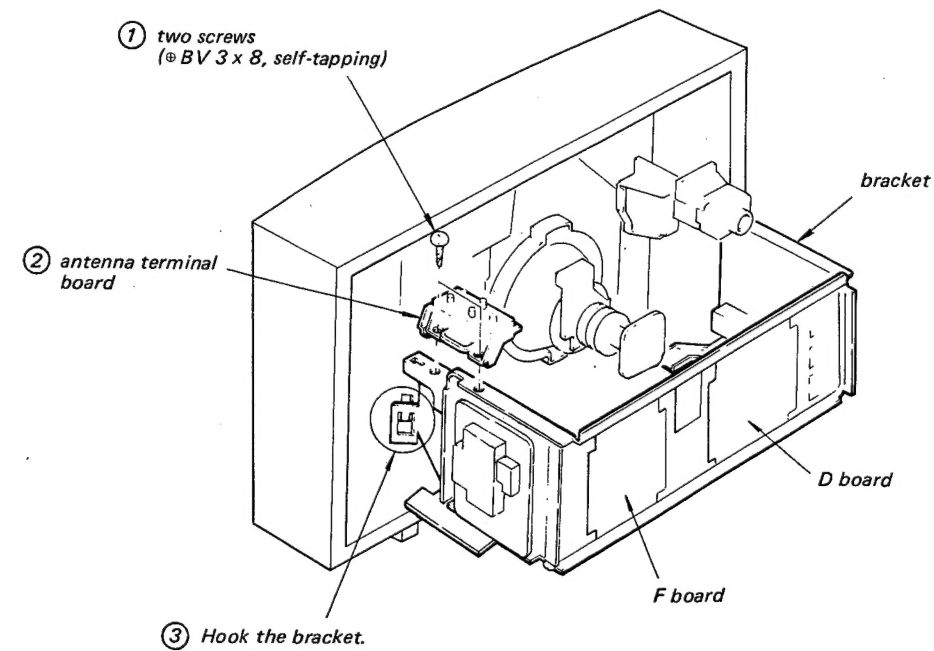


Fig. 2-3. Circuit boards check

2-4. UHF TUNER DIAL CALIBRATION

Perform the procedures in numerical order as shown in Fig. 2-4.

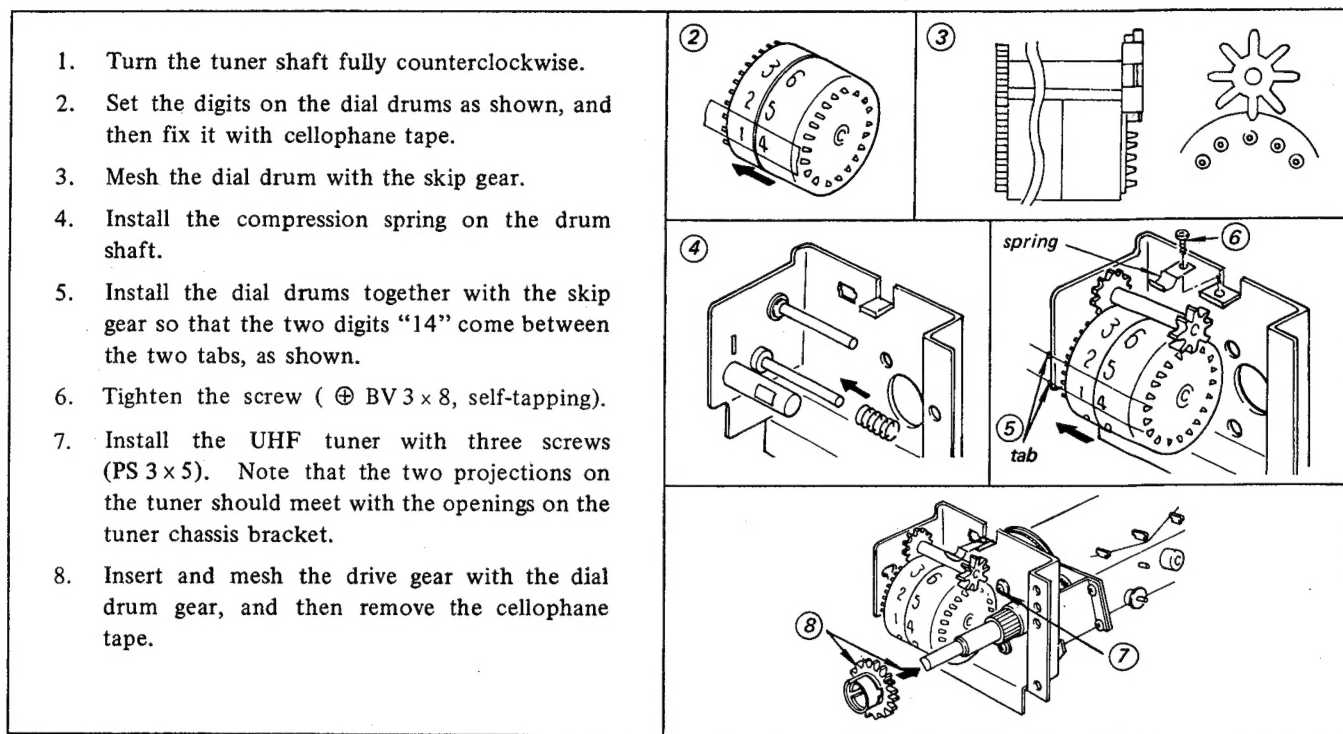


Fig. 2-4. UHF tuner dial calibration

2-5. CIRCUIT BOARDS LOCATION

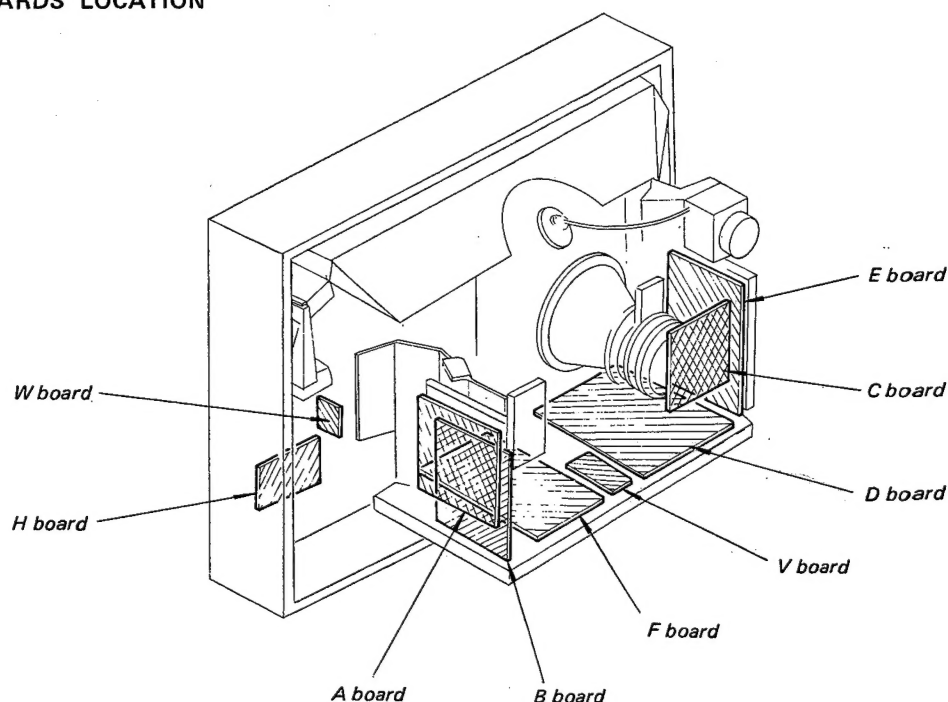


Fig. 2-5. Circuit boards location

SECTION 3

SETUP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

Controls and switches should be set as follows:

PICTURE control) maximum
 BRIGHT control) (fully clockwise)
 AUTO, AFT switches ON

Perform the adjustments in order as follows:

1. Beam Landing Adjustment
2. Convergence Adjustment
3. White Balance Adjustment

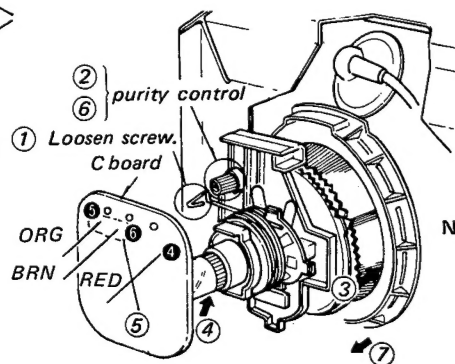
Note: Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser

3-1. BEAM LANDING ADJUSTMENT

Preparation:

- Receive the crosshatch pattern signal.
 - Before starting this adjustment, demagnetize the whole screen securely with degausser.
1. Loosen deflection yoke screw.
 2. Adjust purity control as shown in Fig. 3-1.
 3. Slide deflection yoke forward as far as it will go.
 4. Position neck ass'y as shown in Fig. 3-2.
 5. Disconnect leads ⑤ and ⑥ on the C board.
 6. Adjust purity control to center vertical red band as shown in Fig. 3-3.
 7. Slide deflection yoke backward for a uniform red screen.
 8. Check green and blue rasters for uniformity. Repeat the Steps 5, 6 and 7.
 - To get a uniform green screen,
 - ... Connect lead ⑥ on the C board.
 - Disconnect leads ④ and ⑤.
 - To get a uniform blue screen,
 - ... Connect lead ⑤ on the C board.
 - Disconnect leads ④ and ⑥.
 9. Tighten the deflection yoke screw.
 10. Check if mislanding appears at corners a~d as shown in Fig. 3-4. If mislanding is observed, correct it as shown in Fig. 3-4.



Note: Circled numbers indicate steps of Procedure.

11. Confirm that mislanding is not observed although the receiver is faced in any direction.

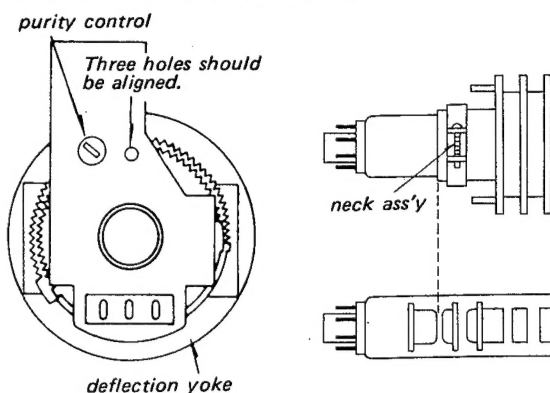


Fig. 3-1.

Fig. 3-2.

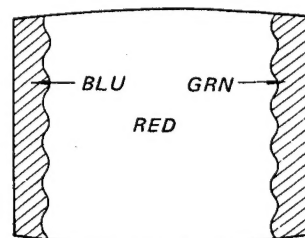


Fig. 3-3.

Disk magnets or rotatable disk magnets correct these areas (a~d).

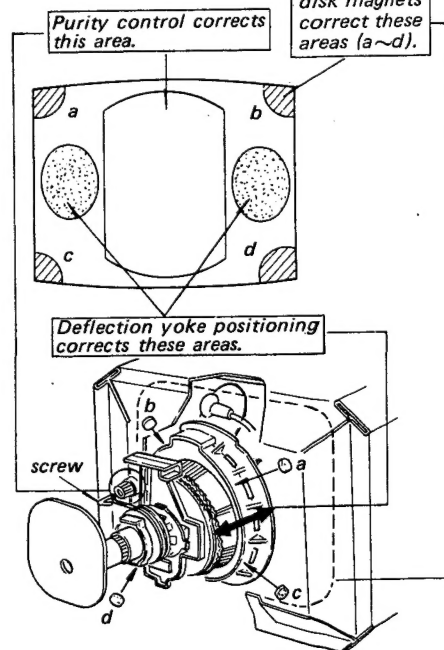


Fig. 3-4.

3-2. CONVERGENCE ADJUSTMENT

Preparation:

- Before starting this adjustment, perform FOCUS, H.SIZE, V.SIZE and V.LIN adjustments.
- Turn BRIGHT control fully counterclockwise.
- Receive the dot pattern signal.

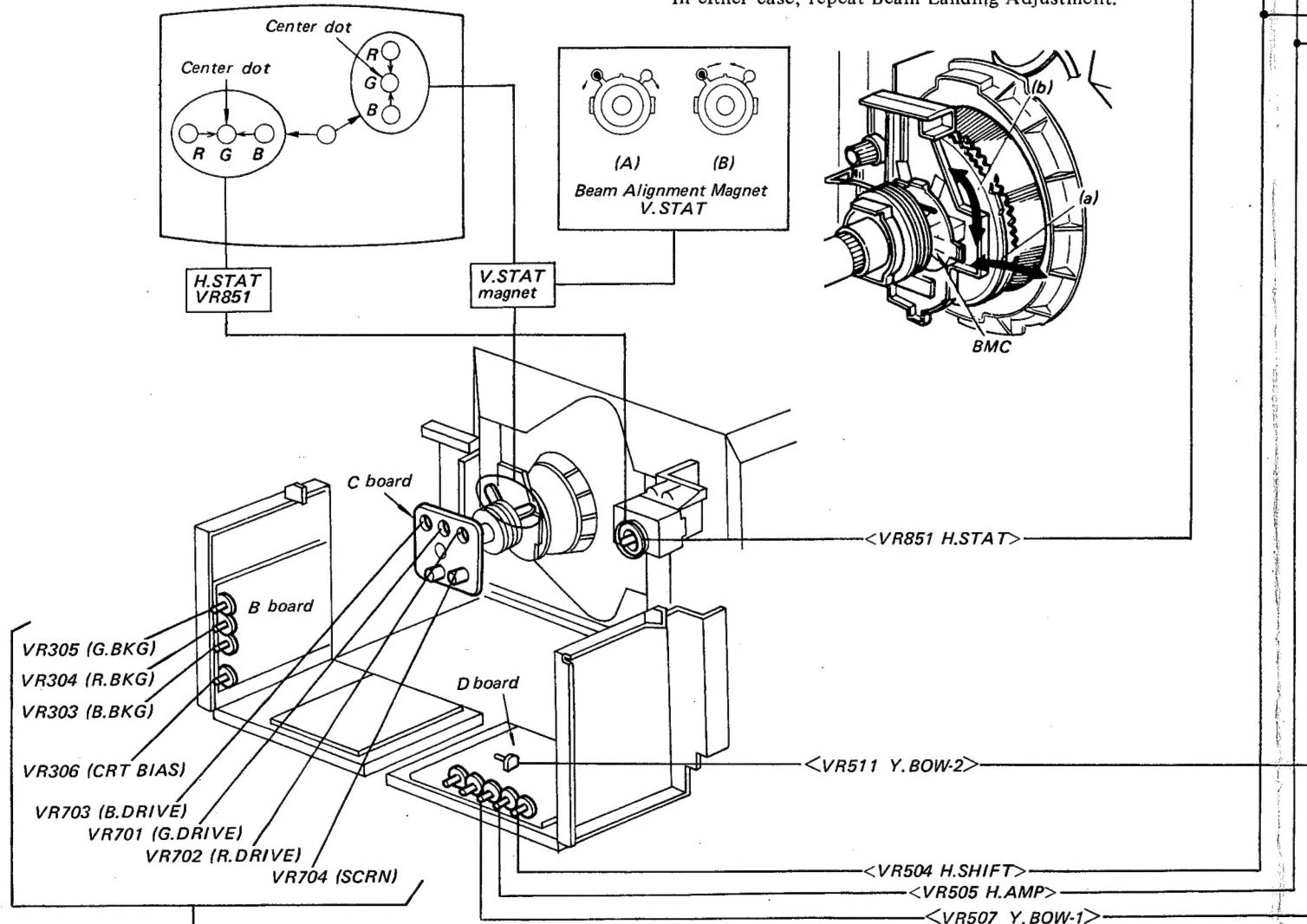
(1) Horizontal Static Convergence and Vertical Static Convergence Adjustments

If blue dot does not coincide with red and green dots, perform following Steps.

BMC magnet (a) movement corrects insufficient H. static convergence.

BMC magnet (b) rotation corrects insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.



3-3. WHITE BALANCE ADJUSTMENT

Receive the crosshatch pattern signal.

1. Turn BRIGHT and PICTURE controls fully counterclockwise.
2. Turn VR701 (G.DRIVE), VR702 (R.DRIVE) and VR703 (B.DRIVE) fully clockwise.
3. Set VR303 (B.BKG), VR304 (R.BKG), VR305 (G.BKG) and VR306 (CRT.BIAS) to mechanical center.

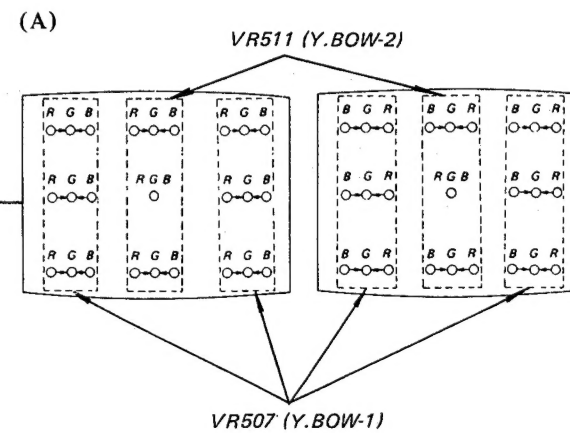
4. Turn VR704 (SCRN) slowly to obtain a faintly visible crosshatch. Memorize the color which becomes visible first by turning VR704. Do not turn a BKG control for this color.
5. Adjust the other two BKG controls for best white balance (neutral gray) at faintly visible screenlight.
6. Turn BRIGHT and PICTURE controls fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
7. Repeat Steps 1 through 6 several times.

(2) Dynamic Convergence Adjustment

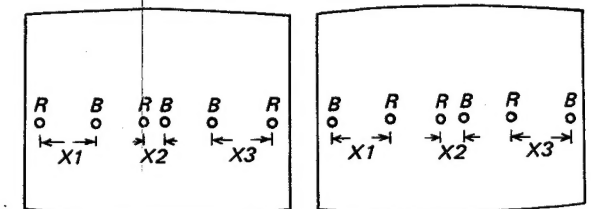
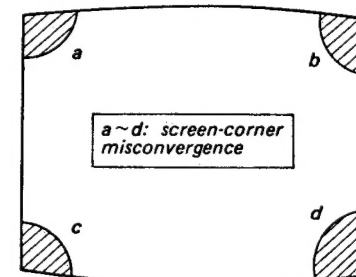
[Misconvergence at Both Sides of Screen.]

1. Controls should be set as follows:
VR504 (H.SHIFT)..... mechanical center
VR505 (H.AMP), VR507 (Y.BOW-1) fully clockwise
VR511 (Y.BOW-2)..... fully counterclockwise
2. Adjust VR851 so that green and blue dots coincide at center of screen.
3. Adjust VR504 so that X1 is equal to X3.
4. Adjust VR505 so that X2 is equal to X3.
5. Repeat above steps 1 through 4 two or three times.

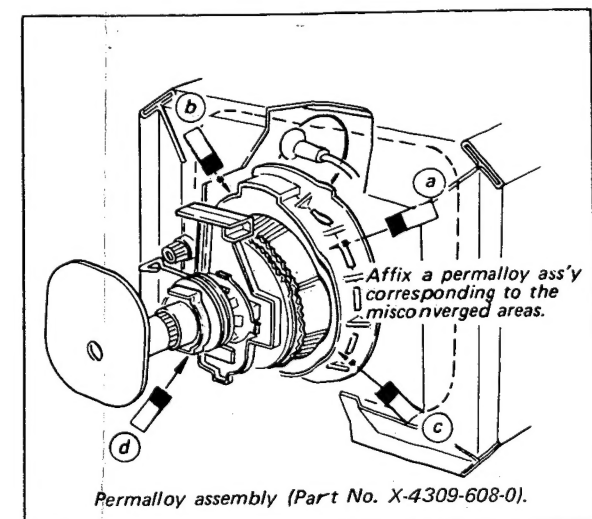
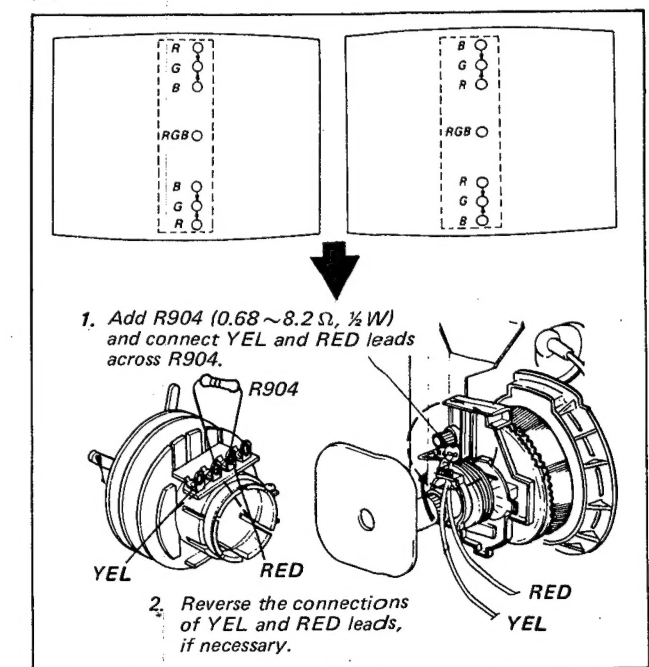
[Top and Bottom Misconvergence]



(3) Screen-corner Convergence Adjustment



(B)



SECTION 4

CIRCUIT ADJUSTMENTS

Note: (1) TEST EQUIPMENT REQUIRED

- Oscilloscope
- Voltmeter (VOM)
- Color-bar/pattern generator

(2) RECEIVING SIGNAL

When performing these adjustments, receive any of a crosshatch signal, a color-bar signal or an off-the-air signal.

(3) CONTROL SETTING FOR CHECK AND ADJUSTMENTS

Controls and switches should be set as follows when performing checks and adjustments unless otherwise noted.

- PICTURE control
HUE control
SHARPNESS control
BRIGHT control
COLOR control
AUTO switch ON
AFT switch ON

} Set for best picture

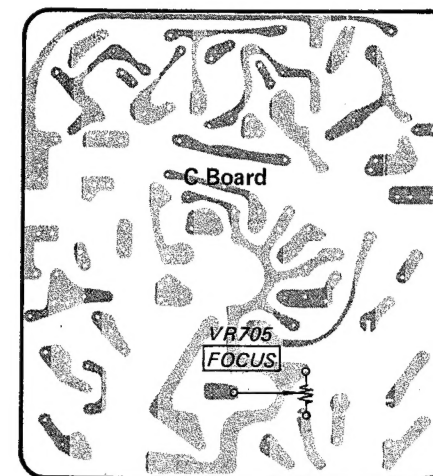
(4) TABLE OF CONTENTS FOR CIRCUIT ADJUSTMENTS

Items	Circuit Boards	Page
B+ Pre-Adjustment	F	11
B+ (135 V) Adjustment	F	11
H SIZE Adjustment	C	12
FOCUS Adjustment	E	12
BLANKING Adjustment	E	13
PIN AMP and BIAS Adjustments	D	14
H FREQ Adjustment	D	14
SIF Adjustment	A	15
4.5 MHz TRAP Adjustment	A	15
TUNER AGC Adjustment	A	15
AFT Adjustment	A	15
ACC Adjustment	B	16
HUE Adjustment	B	16
BAT Adjustment	B	16
3.58 MHz TRAP Adjustment	B	16

4-2. C BOARD ADJUSTMENT

FOCUS ADJ

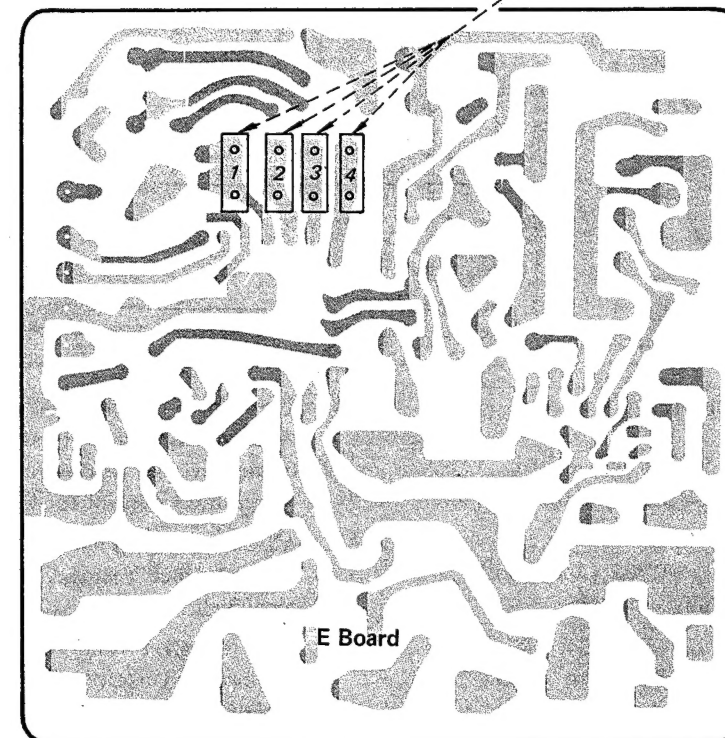
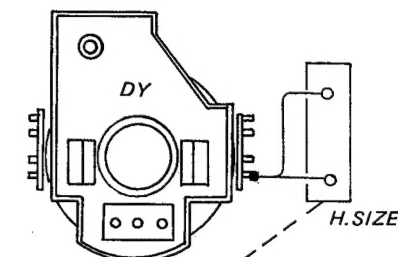
Adjust VR705 for best focus.



4-3. E BOARD ADJUSTMENT (1)

H. SIZE ADJ

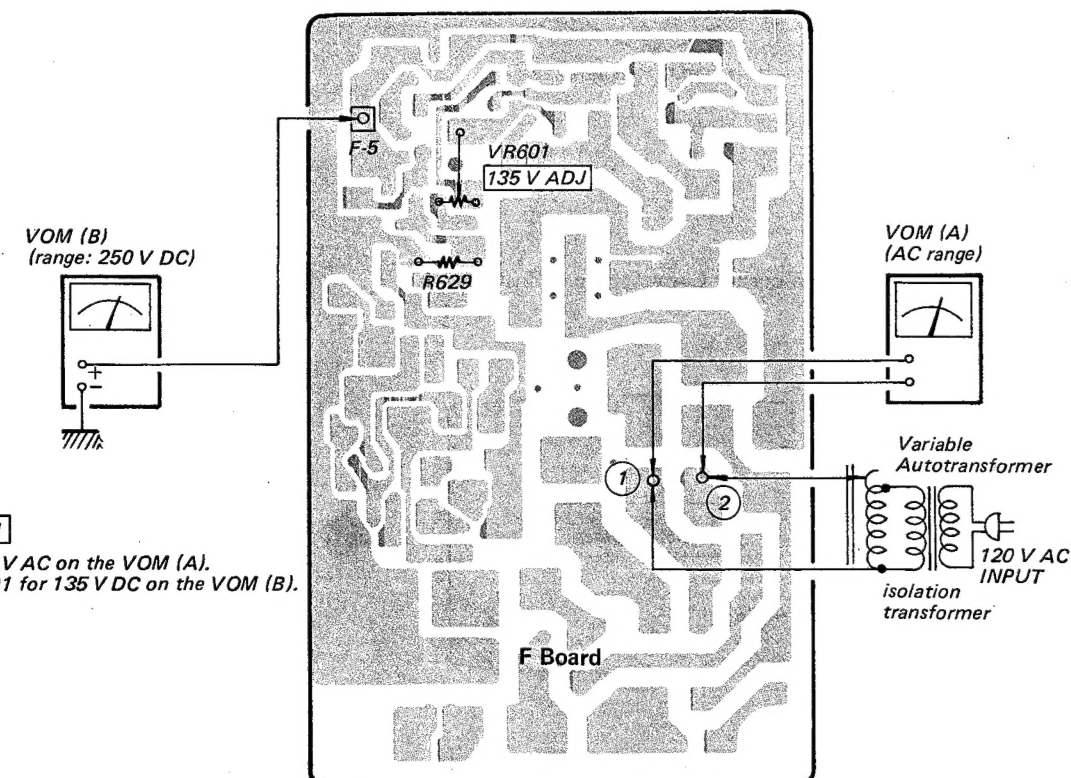
Select one of connection points 1 ~4 for best H. SIZE.



4-1. F BOARD ADJUSTMENT

B+ Pre-ADJ

- Adjust variable autotransformer for 130 V AC on the VOM (A).
- Adjust VR601 for maximum reading on the VOM (B).
- Select resistance value of R629 for 137 ~ 146 V DC on the VOM (B).



B+ (135 V) ADJ

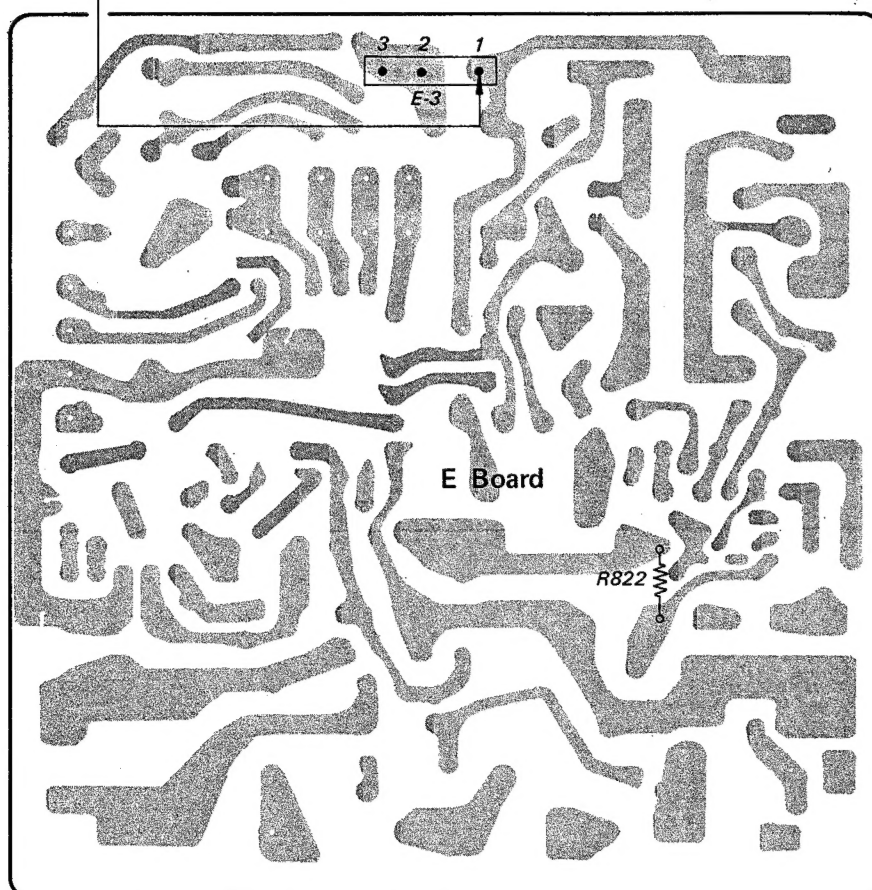
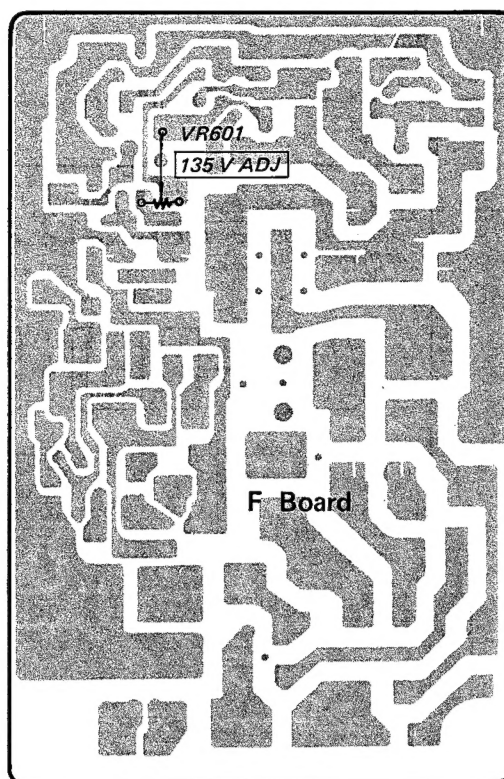
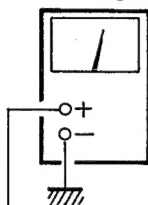
- Confirm 120 V AC on the VOM (A).
- Adjust VR601 for 135 V DC on the VOM (B).

4.4. E BOARD ADJUSTMENT (2)

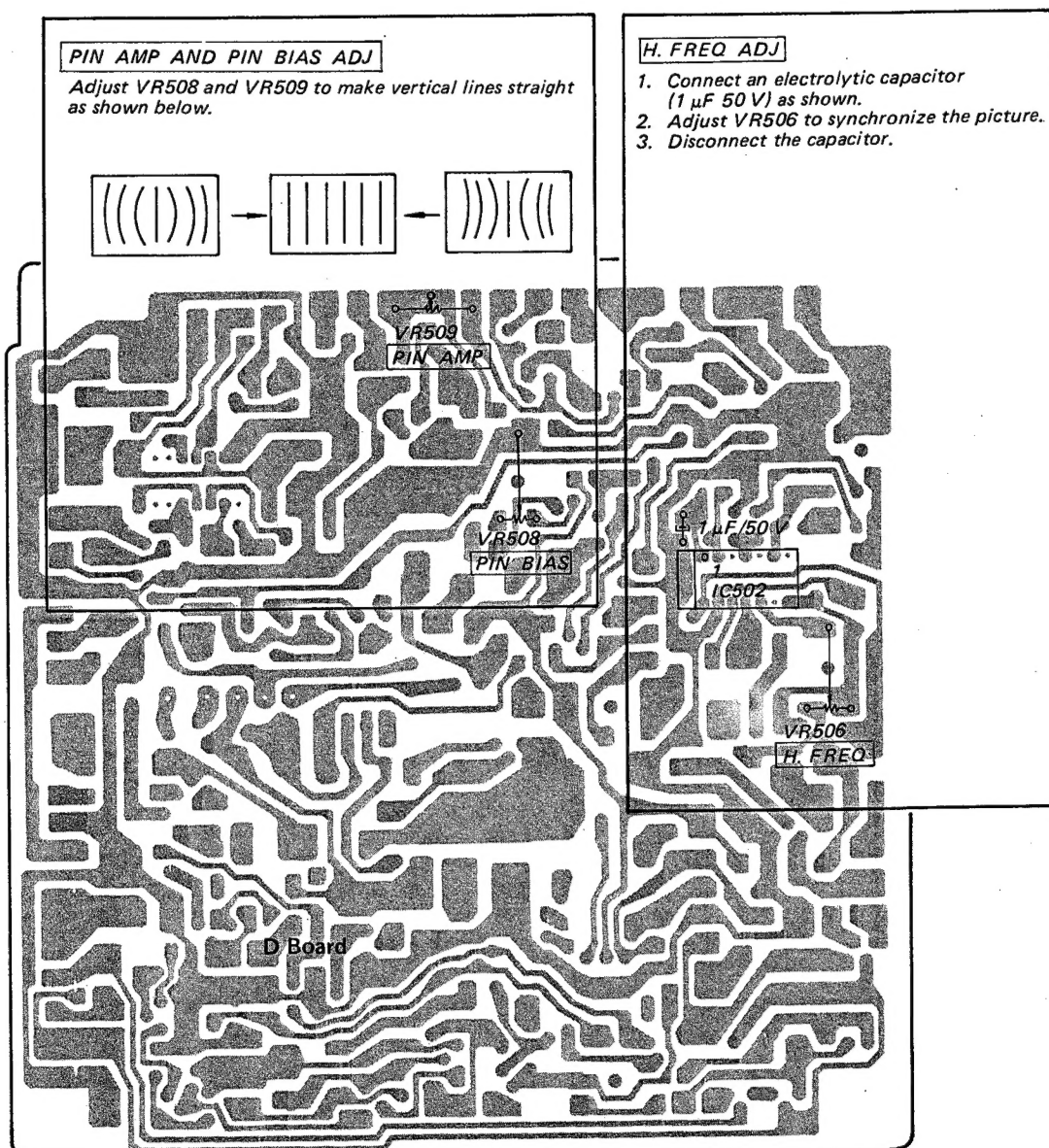
BLANKING ADJ

1. Adjust VR601 for 142 ~ 146 V DC on the VOM.
2. Select resistance value of R822 so that raster disappears.
3. Readjust VR601 for 135 V DC on the VOM.

VOM
(DC range)



4.5. D BOARD ADJUSTMENTS



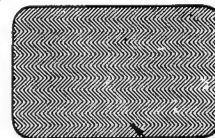
4-6. A BOARD ADJUSTMENTS

SIF ADJ

1. Receive an off-the-air signal.
2. Adjust T213 for maximum clear-sound.

AFT ADJ

1. Receive an off-the-air signal.
2. Push AFT switch to OFF (manual operation).
3. Depress fine tuning knob, and then turn it clockwise to obtain 920 kHz beat.
4. Set fine tuning knob to the point where the 920 kHz beat just disappears by slowly turning fine tuning knob counter-clockwise.
5. Push AFT switch to ON. The 920 kHz beat will appear or "no color" will occur, if the adjustment is improper.
6. Set L155 to the point where the 920 kHz beat just disappears or normal color is obtainable.



920 kHz beat

A Board

T213
4.5 MHz
TRAP

IC201

VR201
TU. AGC

TUNER AGC ADJ

1. Receive an off-the-air signal.
2. Adjust VR201 so that show-noise and cross-modulation disappear on the picture.

oscilloscope



4.5 MHz TRAP ADJ

1. Receive an off-the-air signal.
2. Turn fine tuning knob clockwise while depressing it for 4.5 MHz beat on the oscilloscope.
3. Adjust T213 for minimum 4.5 MHz beat.



Minimize 4.5 MHz beat.

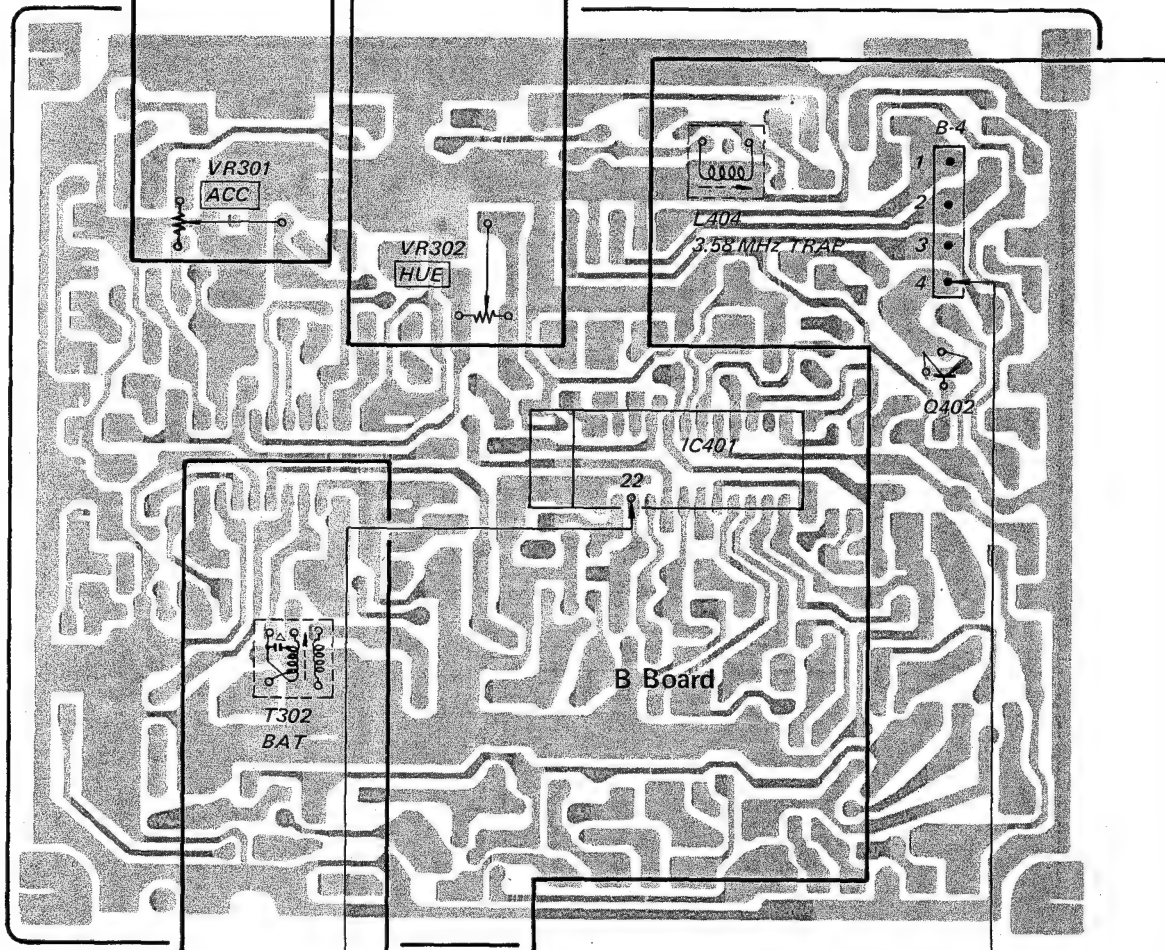
4-7. B BOARD ADJUSTMENTS

ACC ADJ

1. Receive a strong off-the-air signal.
2. Set COLOR and PICTURE controls to mechanical center.
3. Adjust VR301 for suitable color intensity.

HUE ADJ

1. Receive a strong off-the-air signal.
2. Set HUE control to mechanical center.
3. Adjust VR302 for correct skin tones.



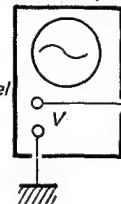
BAT ADJ

1. Receive a color-bar signal from the color-bar/pattern generator.
2. Adjust T302 for minimum level.



Minimize level

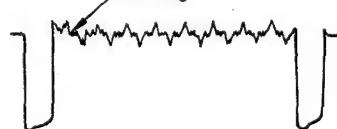
oscilloscope



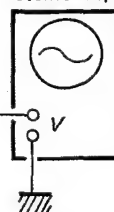
3.58 MHz TRAP ADJ

1. Receive a color-bar signal from the color-bar/pattern generator.
2. Turn COLOR control fully counterclockwise and PICTURE control fully clockwise.
3. Adjust L404 for minimum 3.58 MHz component.

Minimize 3.58 MHz carrier leakage.

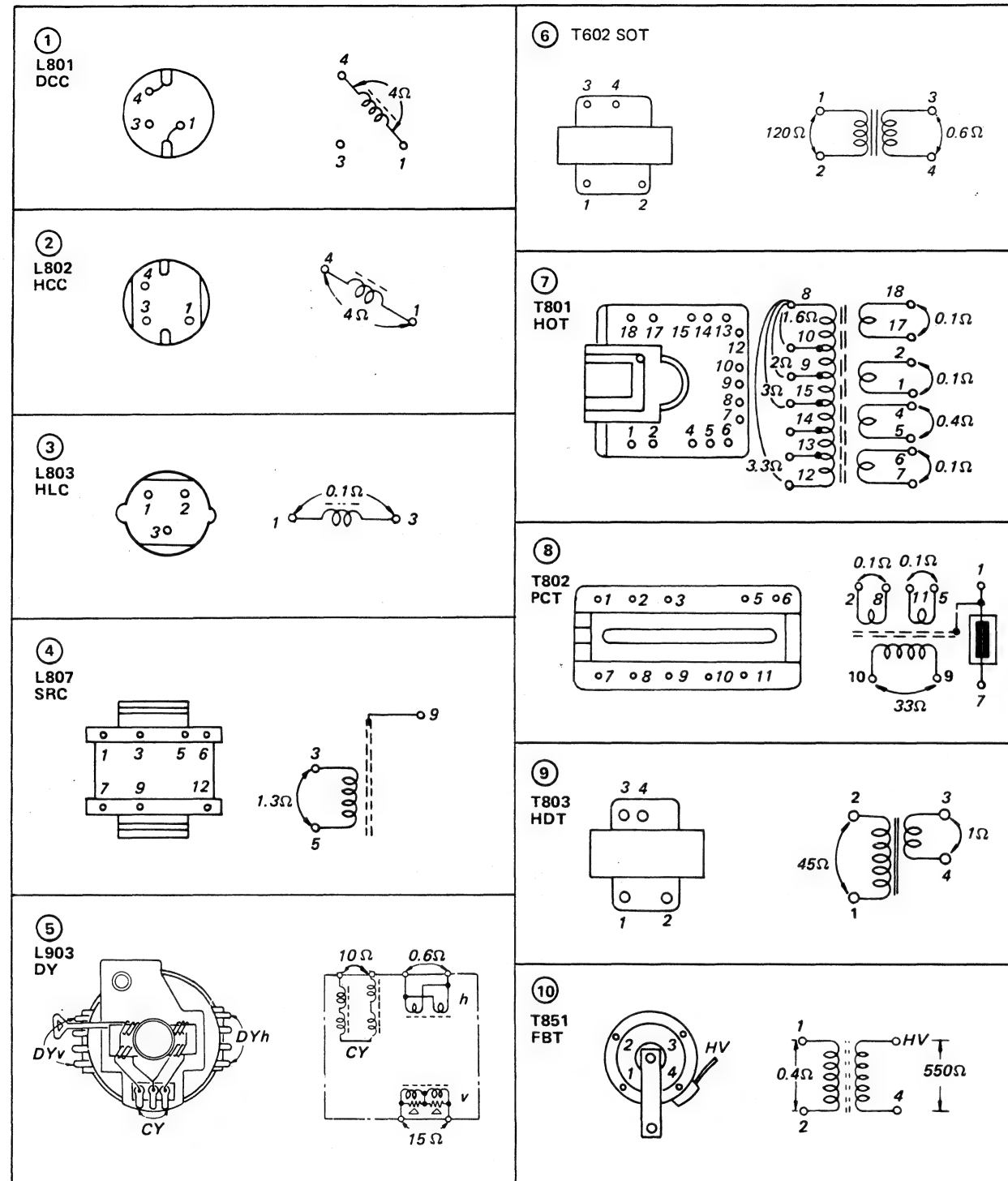


oscilloscope



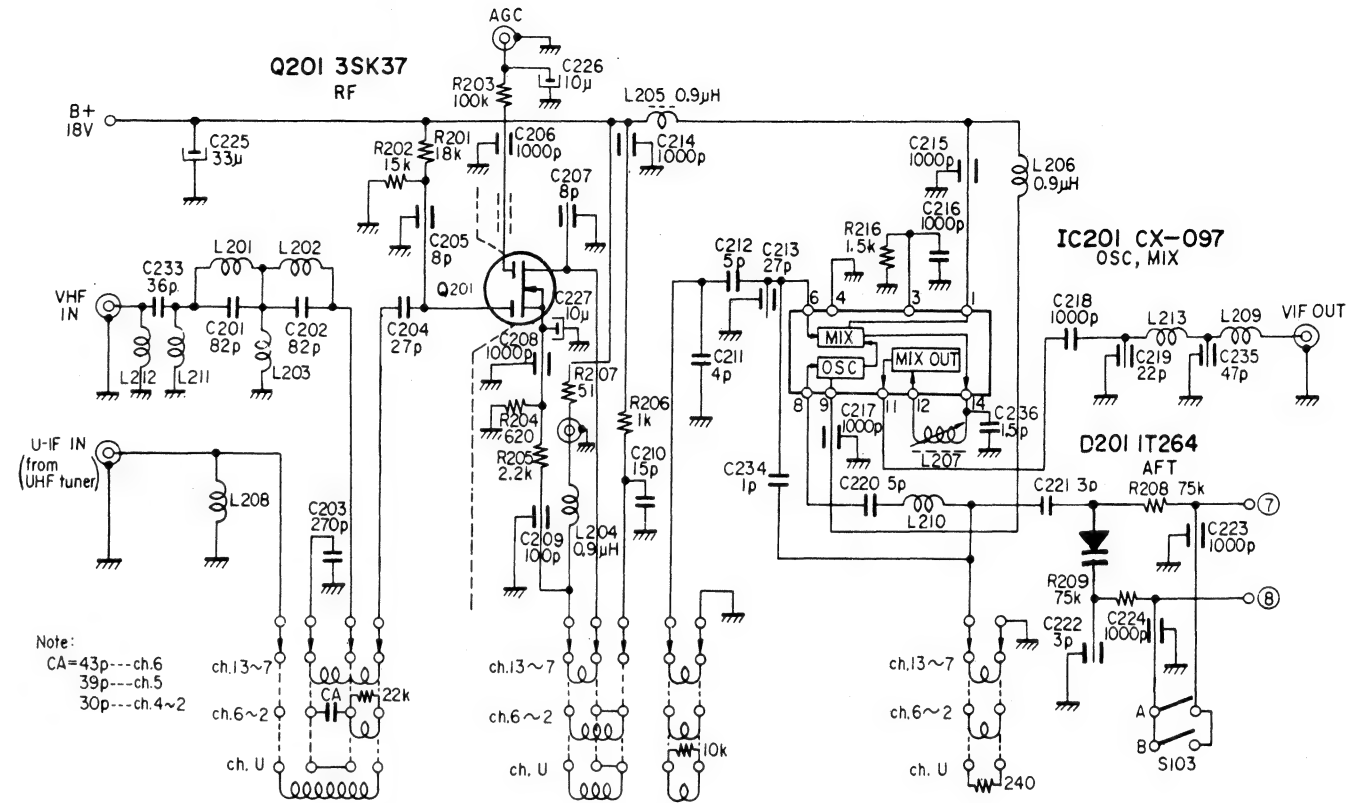
SECTION 5
DIAGRAMS

5-1. DC RESISTANCE AND WINDING DIAGRAMS OF COILS AND TRANSFORMERS



Note: DC resistance measurements shown with coil disconnected from circuit.

5-2. VHF AND UHF TUNER SCHEMATIC DIAGRAMS

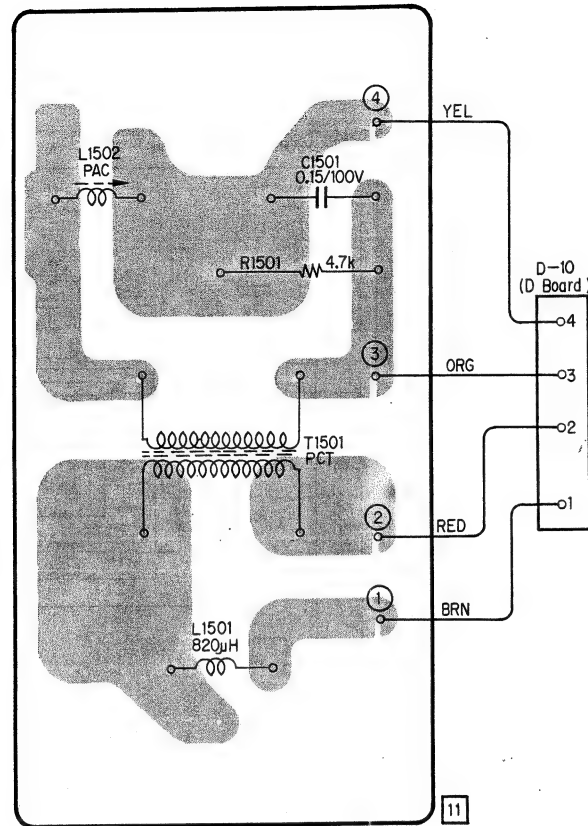
- VHF tuner -
(BT-752Wu)Note: 1. Tuner reference numbers are not included in the Electrical Parts List (Page 41 ~ 48).
2. All resistors are 1/4 W unless otherwise noted.

V

W

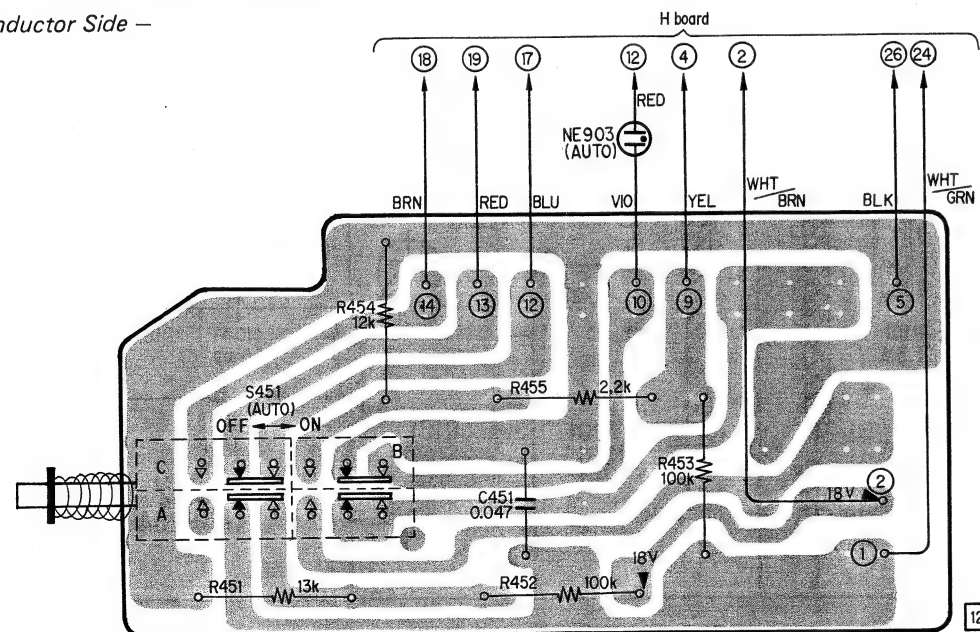
C

5-3. MOUNTING DIAGRAM – V Board – – Conductor Side –



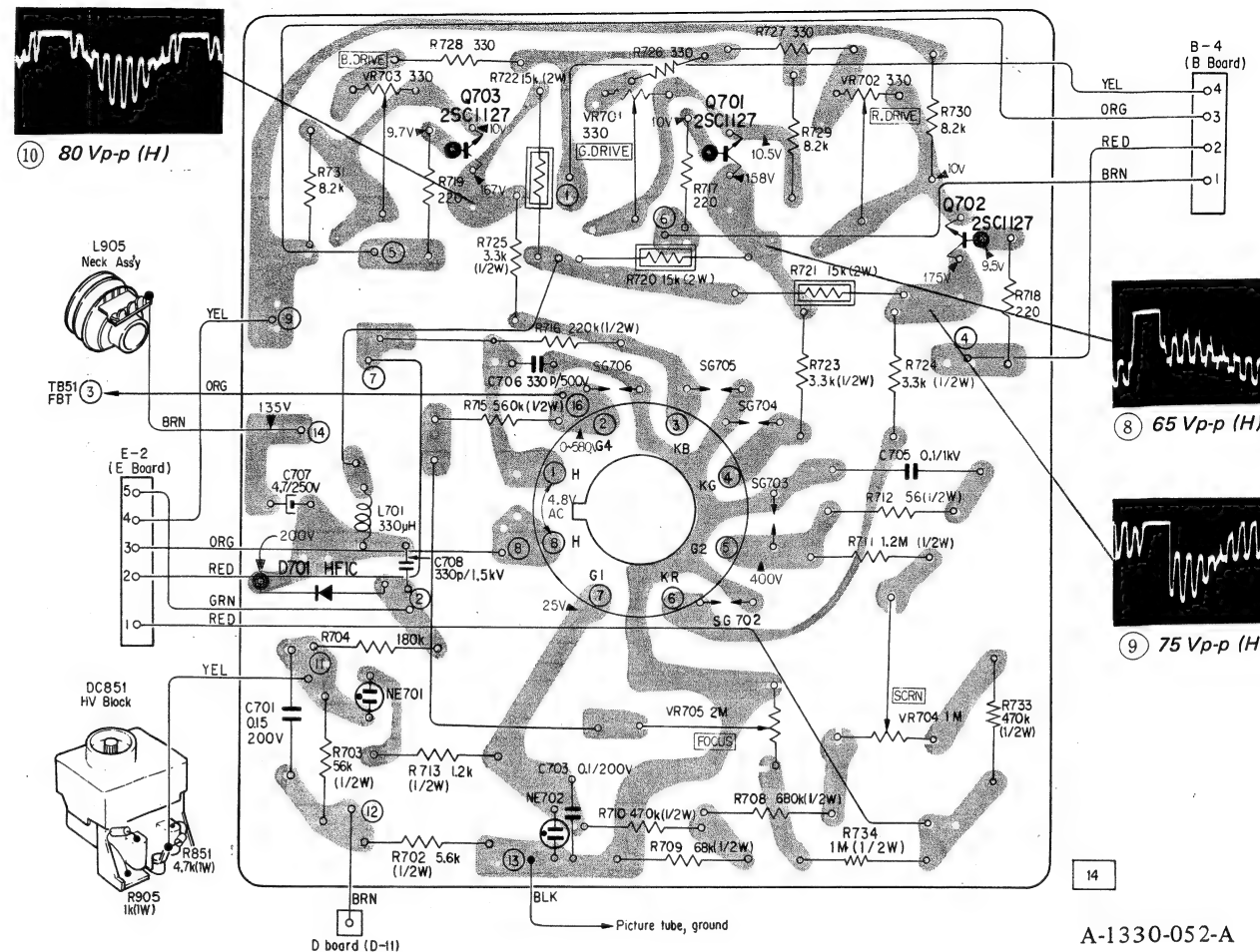
Note: ○— indicates parts or wire connection point through the component side.

5-4. MOUNTING DIAGRAM – W Board – – Conductor Side –



Note: ○ indicates parts or wire connection point through the component side.

5-5. MOUNTING DIAGRAM – C Board – – Conductor Side –

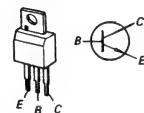


Note: ●— indicates parts or wire connection point on the conductor side.

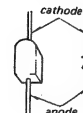
○ indicates parts or wire connection point through the component side.

 indicates a nonflammable resistor.

2SC1127

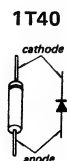
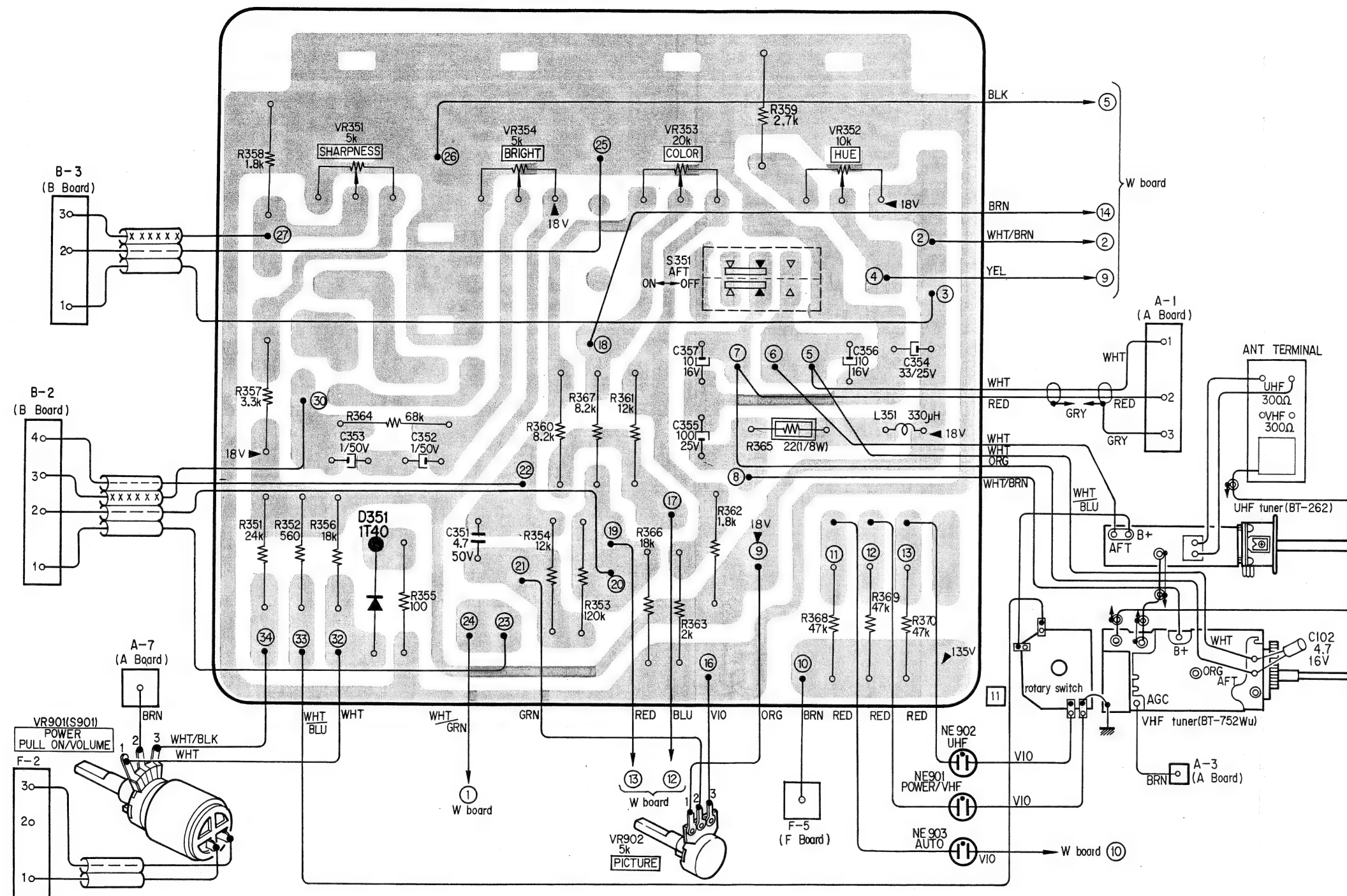


HF1C





5-6. MOUNTING DIAGRAM —H Board —
— Conductor Side —



Note: ● indicates parts or wire connection point on the conductor side.

○ indicates parts or wire connection point through the component side.

indicates a nonflammable resistor.

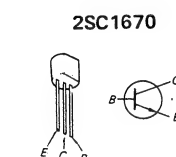
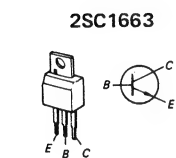
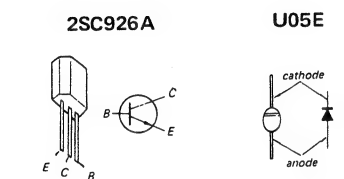
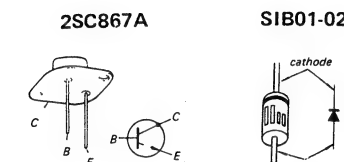
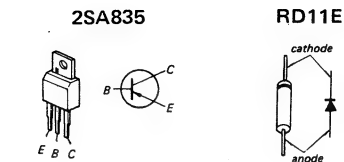
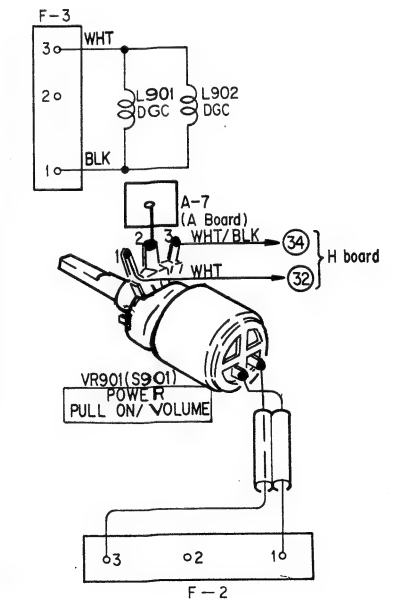
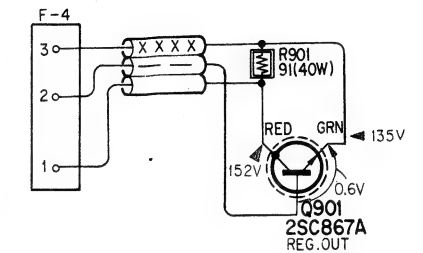
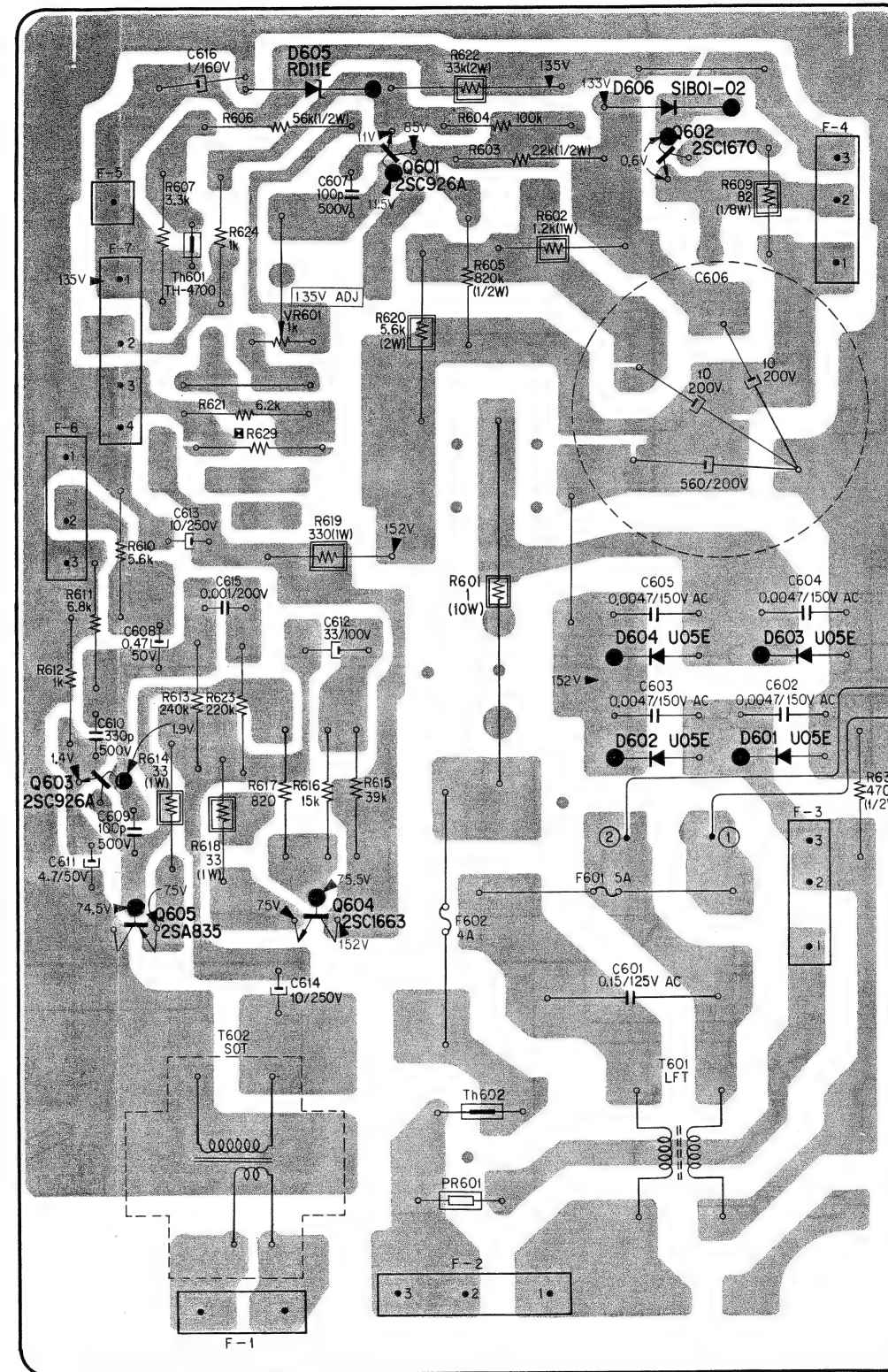
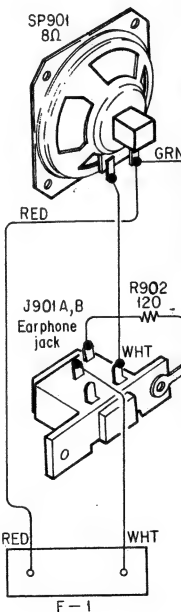
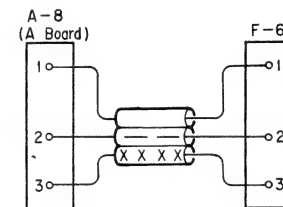
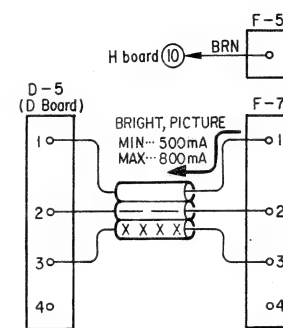
A-1370-063-A

F

F

5-7. MOUNTING DIAGRAM — F Board — — Conductor Side —

Q	D	ADJ
Q601 Q602 Q901	D605 D606	
		VR601
	D604 D603	
	D602 D601	
Q603		
Q605 Q604		



Note: ● indicates parts or wire connection point on the conductor side.

○ indicates parts or wire connection point through the component side.

■ indicates a nonflammable resistor.

□ indicates factory selected value.

KV-2101

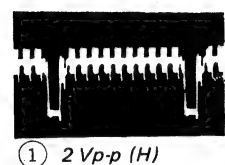
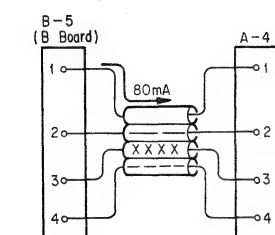
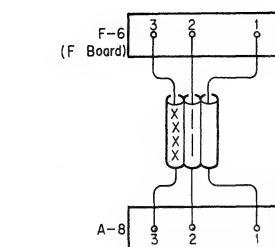
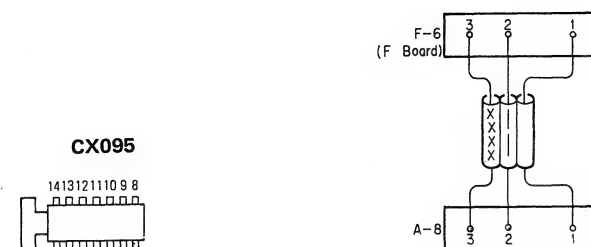
KV-2101

A

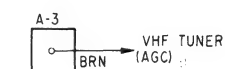
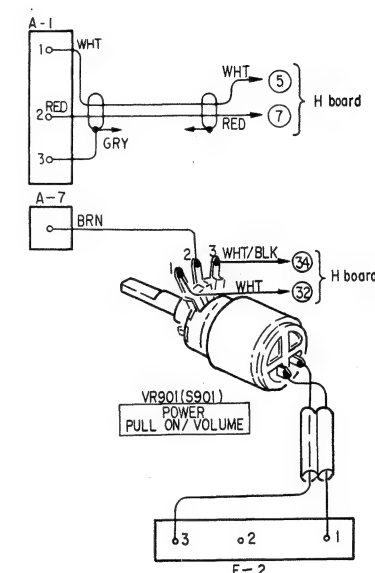
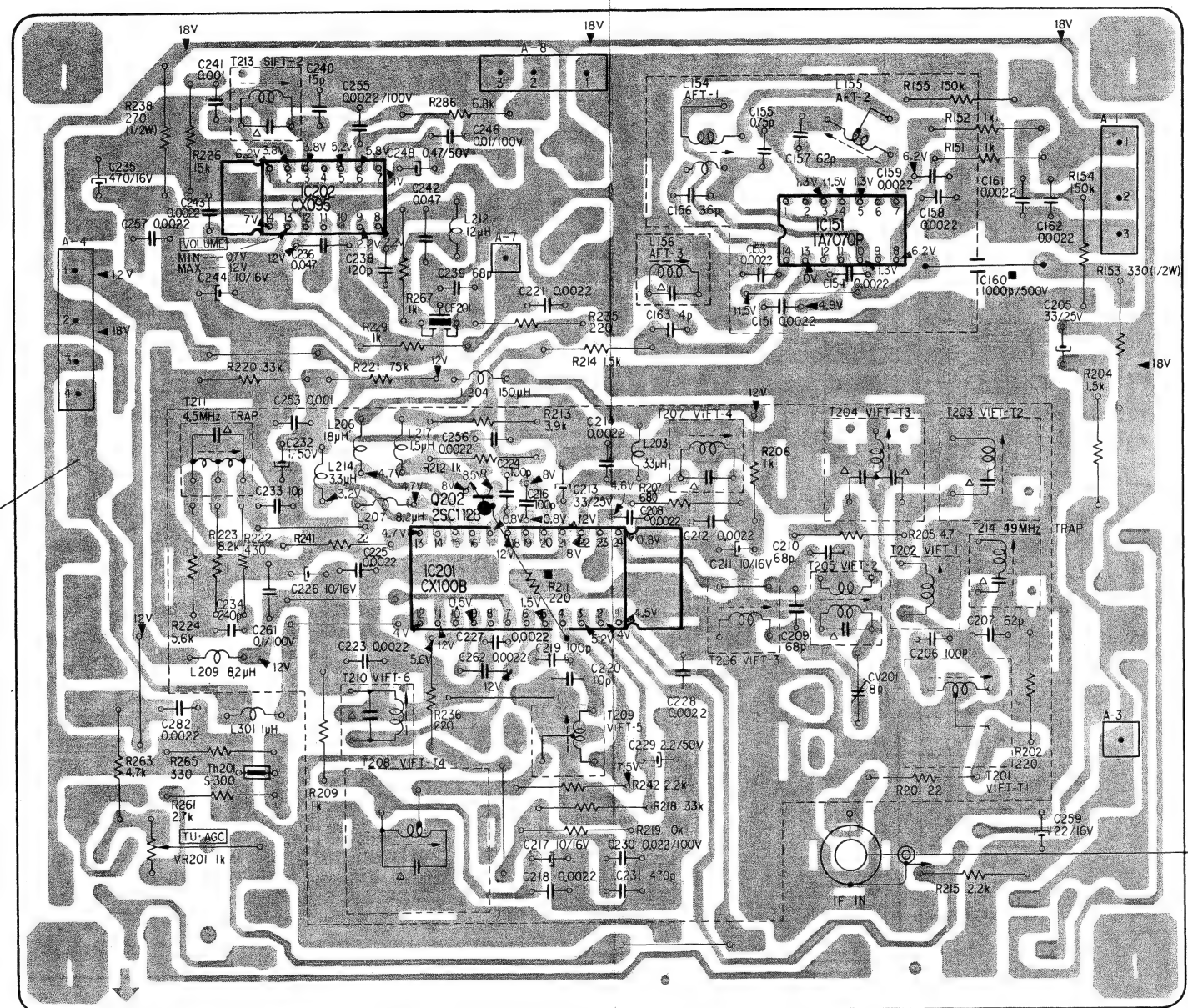
A

5-8. MOUNTING DIAGRAM – A Board –

– Conductor Side –



A-1295-030-A



IC & Q	IC202	Q202	IC201	IC151
ADJ	T211 T213 VR201			L155

Note: ● indicates parts or wire connection point on the conductor side.
○ indicates parts or wire connection point through the component side.
■ indicates parts on the conductor side.

D		D
---	--	---

CX157

Diagram of CX157 component showing pin connections (14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1) and top view (line or rib).

2SC1124
2SC1663

Diagram of 2SC1124 and 2SC1663 components showing pin connections (E, B, C) and top view (B, C, E).

CX158

Diagram of CX158 component showing pin connections (14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1) and top view (line or rib).

2SC1670

Diagram of 2SC1670 component showing pin connections (E, C, B) and top view (B, C, E).

2SA677

Diagram of 2SA677 component showing pin connections (E, C, B) and top view (B, C, E).

2SC1810

Diagram of 2SC1810 component showing pin connections (B, C, E) and top view (B, C, E).

2SA733

Diagram of 2SA733 component showing pin connections (E, C, B) and top view (B, C, E).

1T40

Diagram of 1T40 component showing pin connections (cathode, anode) and top view (B, C, E).

2SA835

Diagram of 2SA835 component showing pin connections (E, B, C) and top view (B, C, E).

SIB01-02

Diagram of SIB01-02 component showing pin connections (cathode, anode) and top view (B, C, E).

2SC633A
2SC1636

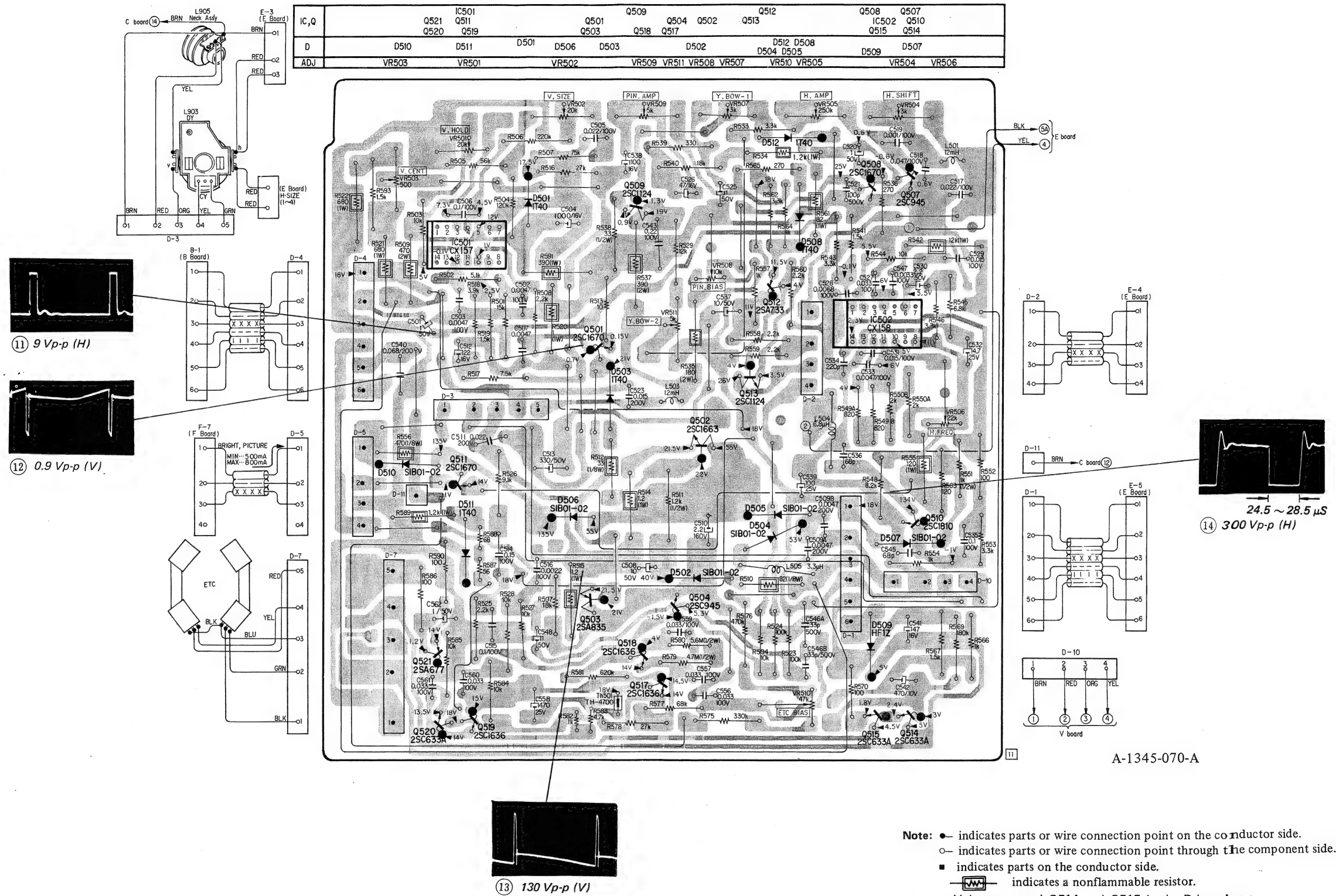
Diagram of 2SC633A and 2SC1636 components showing pin connections (E, C, B) and top view (B, C, E).

HF1Z


Diagram of HF1Z component showing pin connections (cathode, anode) and top view (B, C, E).

2SC945

Diagram of 2SC945 component showing pin connections (E, C, B) and top view (B, C, E).



Note:

- indicates parts or wire connection point on the conductor side.
- indicates parts or wire connection point through the component side.
- indicates parts on the conductor side.
-  indicates a nonflammable resistor.

Voltages around Q514 and Q515 in the D board are taken from the points to the ground side of C541.

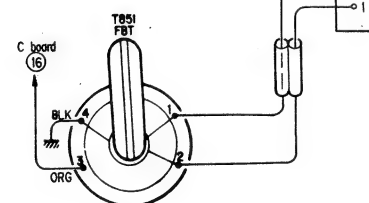
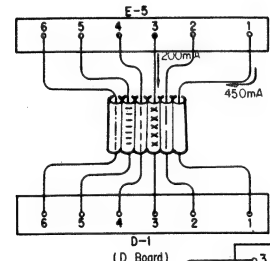
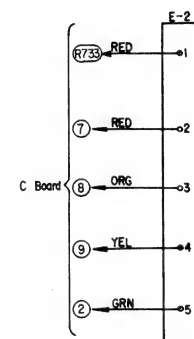
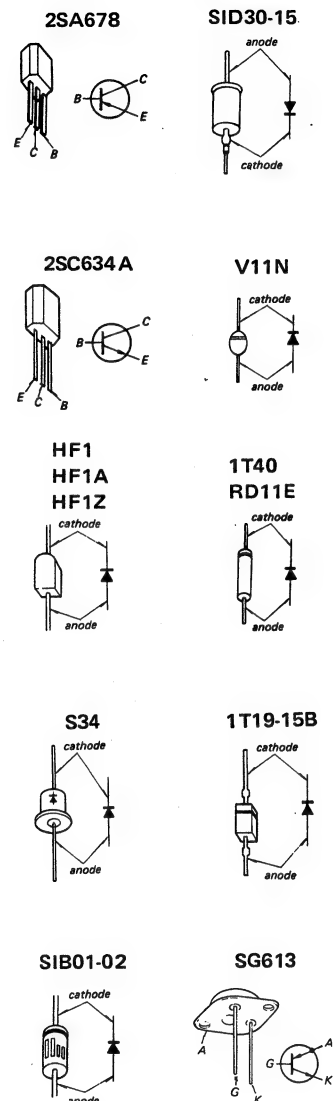
KV-2101 KV-2101

E

E

5-10. MOUNTING DIAGRAM – E Board – – Conductor Side –

Q	Q802 Q801				Q902
D	D812 D804 D803 D807	D801 D802 D808	D806	D809 D810 D805	
ADJ	VR801	L807			



Note: ● indicates parts or wire connection point on the conductor side.

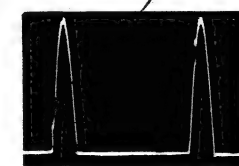
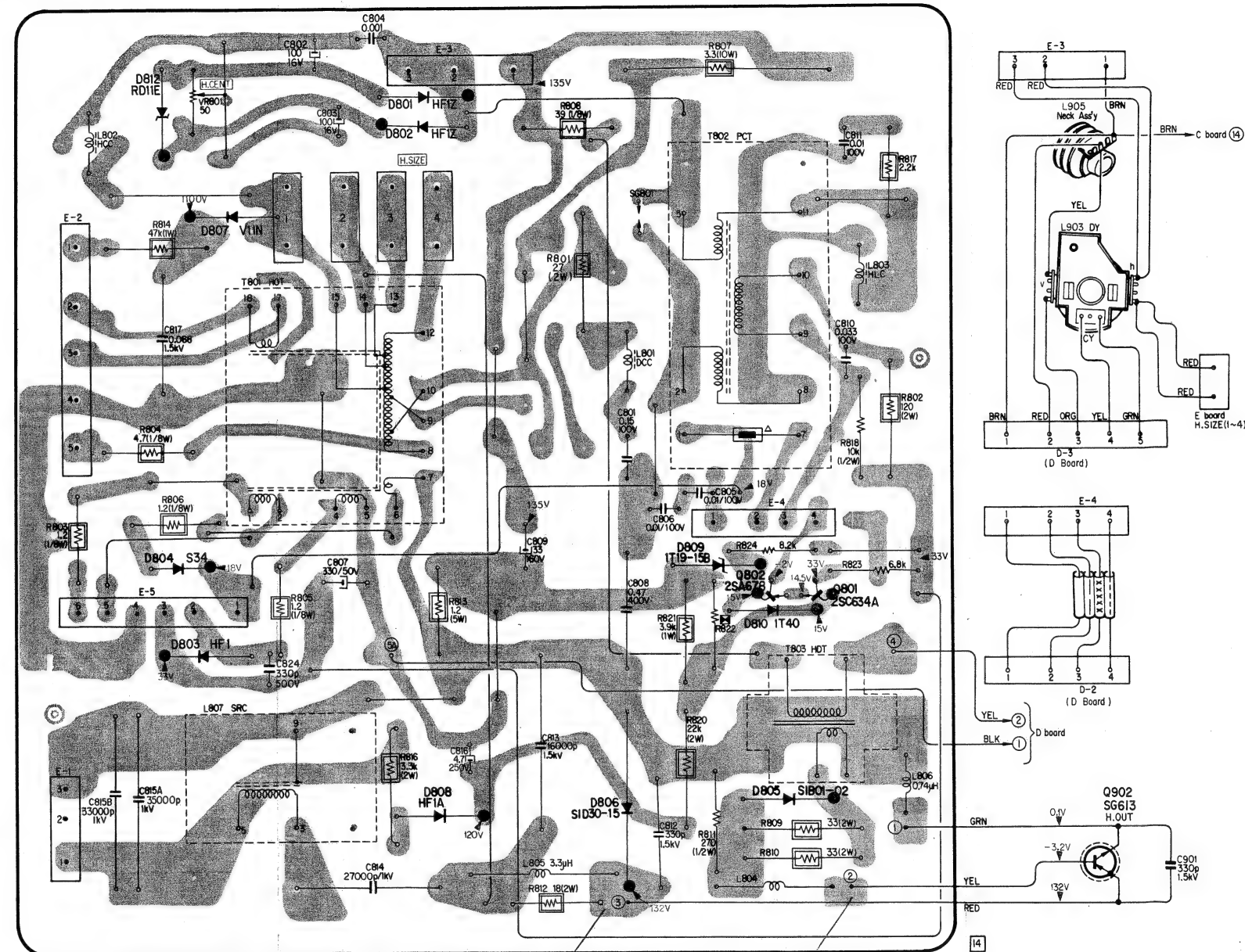
○ indicates parts or wire connection point through the component side.

— indicates a nonflammable resistor.

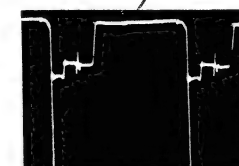
■ indicates factory selected value.

The symbol printed on the conductor side of circuit board indicates that complete connection should be especially made.

A-1345-064-A



(16) 1050 ~ 1150 Vp-p (H)

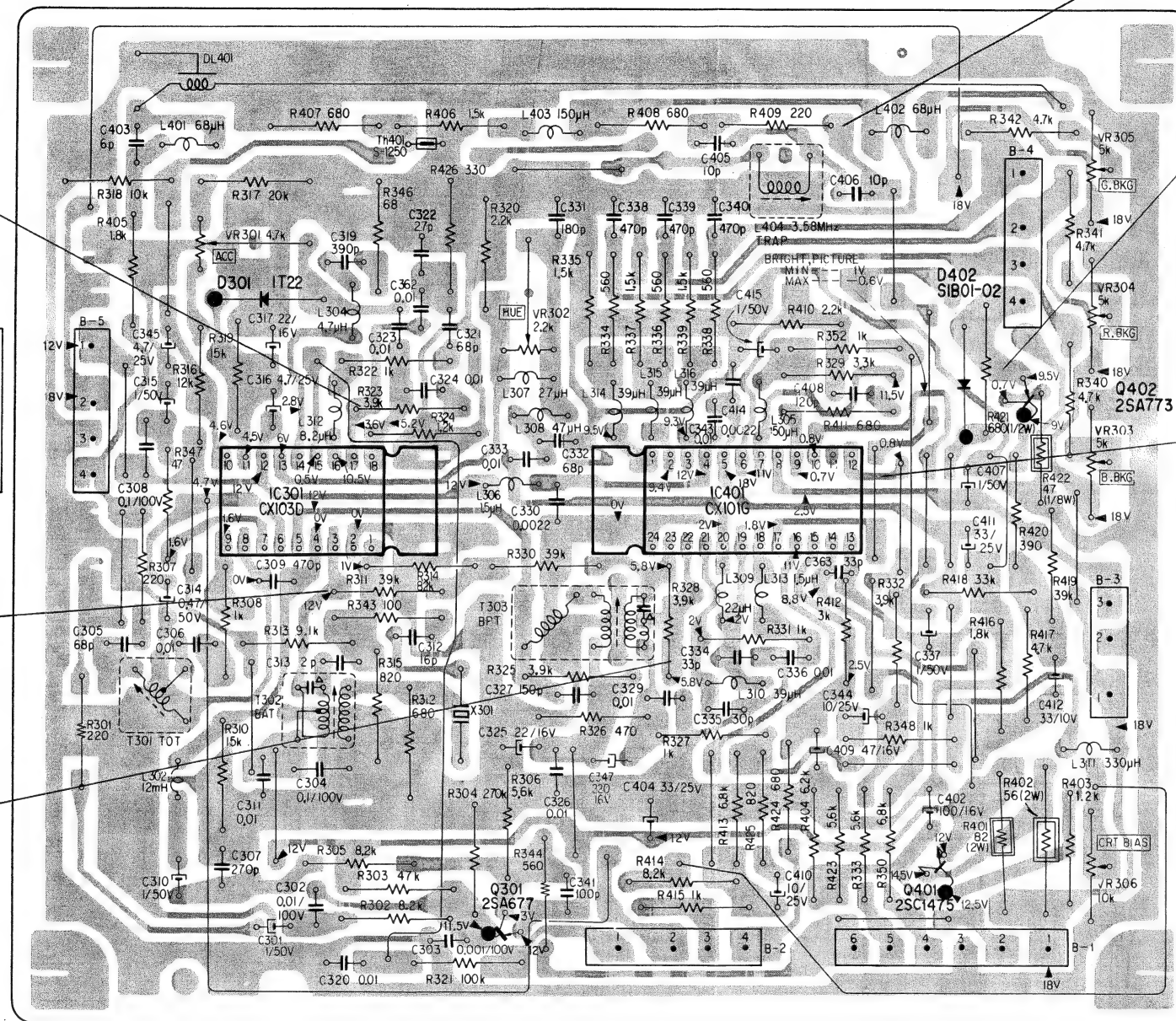


(15) 35 Vp-p (H)

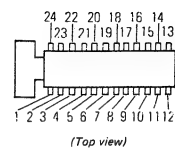
B**B**

5-11. MOUNTING DIAGRAM – B Board – – Conductor Side –

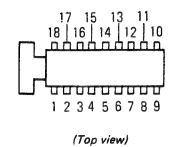
Q, IC	IC301	Q301	IC401	Q401	Q402
D	D301			D402	
ADJ	VR301	VR302	L404	VR305 VR304 VR303 VR306	
	T302				



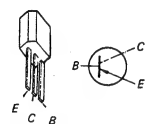
CX101G



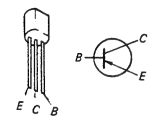
CX103D



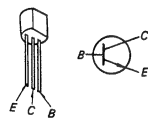
2SA677



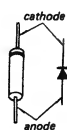
2SA773



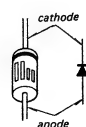
2SC1475



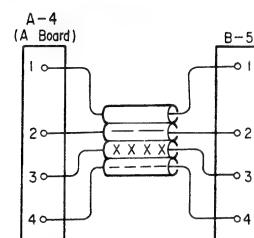
1T22



SIB01-02



③ 0.3 Vp-p (H)



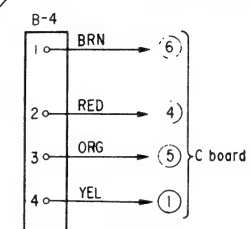
② 7 Vp-p (H)



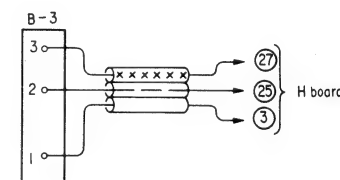
⑤ 1.5 Vp-p (H)

④ 0.8 Vp-p (H)

⑦ 6 Vp-p (H)



⑥ 7 Vp-p (H)



A-1135-027-A

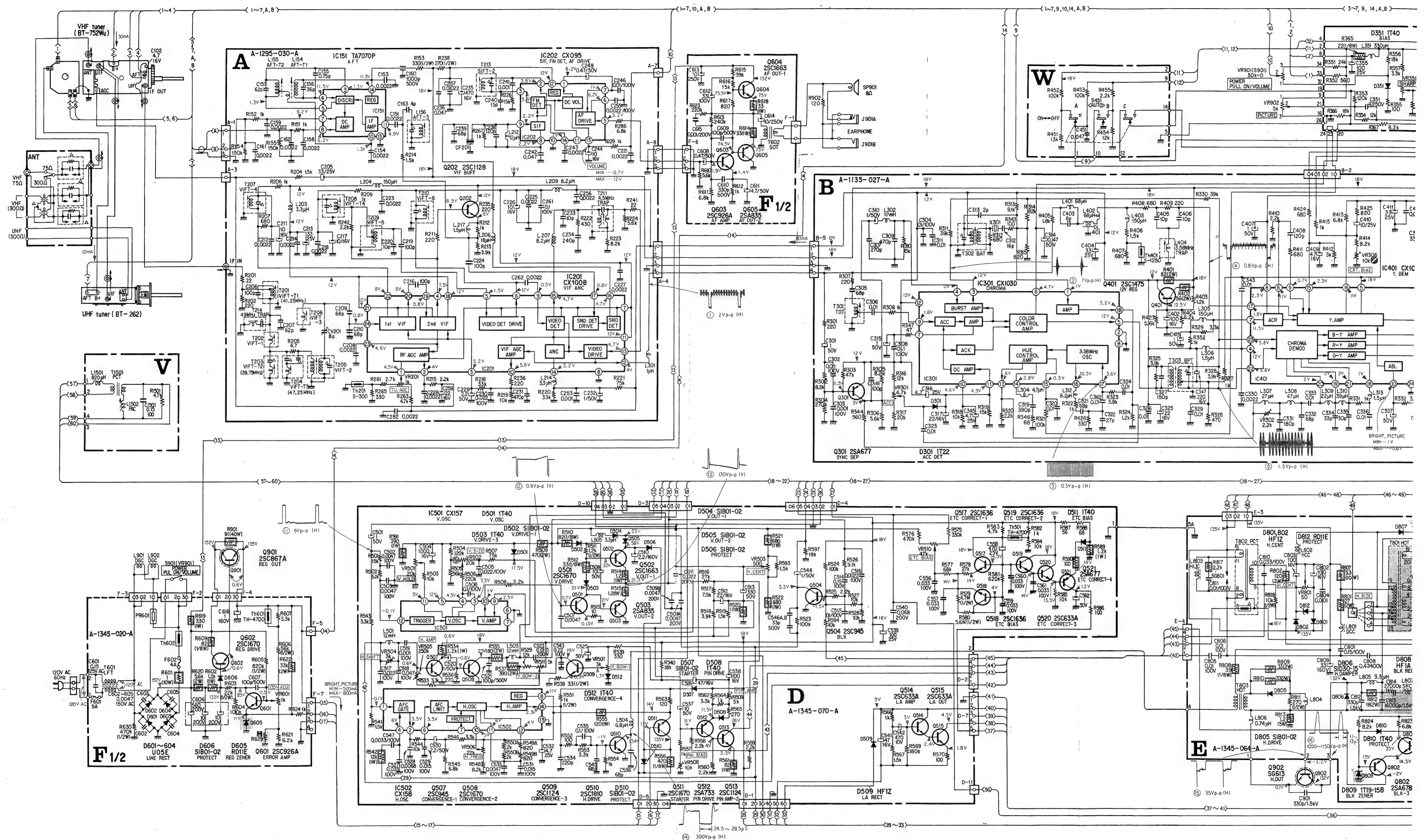
Note: ● indicates parts or wire connection point on the conductor side.

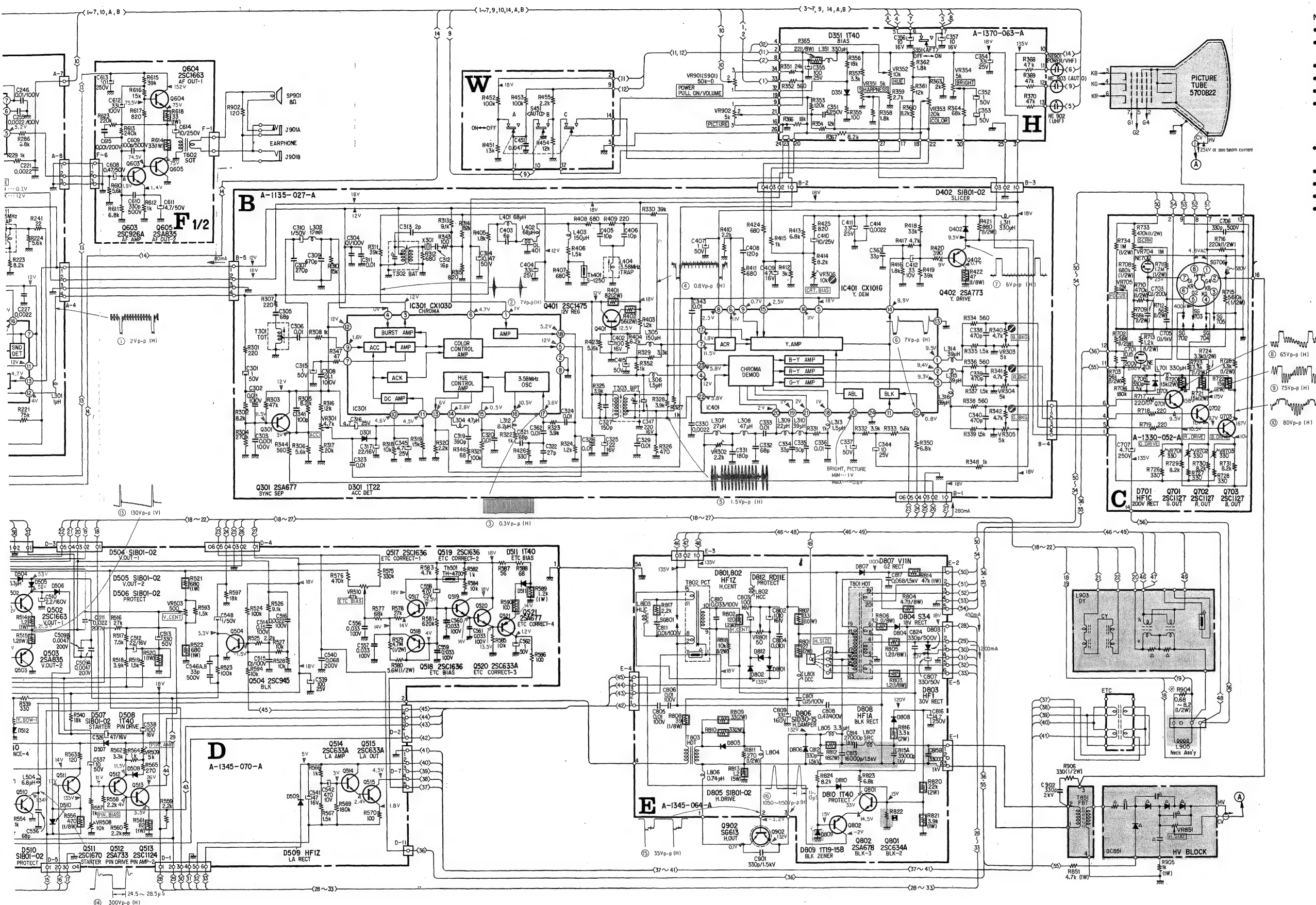
○ indicates parts or wire connection point through the component side.

— indicates a nonflammable resistor.

5-12. SCHEMATIC DIAGRAM

Note: The shaded components are critical for safety.
Replace only with part number specified.





- Note:**
- All capacitors are in μF unless otherwise noted. $p = \mu\mu F$.
 - All resistors are in ohms, $\frac{1}{4}W$ unless otherwise noted. $k = 1000$ $M = 1000k$
 - * indicates values to be selected.
 - \square indicates factory selected value.
 - \triangle indicates internal components.
 - Voltages are dc with respect to ground unless otherwise noted. Readings are with a color-bar signal applied. Voltage variations may be noted due to normal production tolerances.
 - Voltages of Q514 and Q515 in the D board are taken from the points to the ground side of C541.
 - \square indicates a nonflammable resistor.
 - \circ : Adjustable without removing cabinet.
 - \square : indicates the designation on the panel.
 - \square : indicates adjustment for repair.

SECTION 6

EXPLODED VIEWS

A B C D E F G

(1)

Note: The shaded components are critical for safety.
Replace only with part number specified.

1

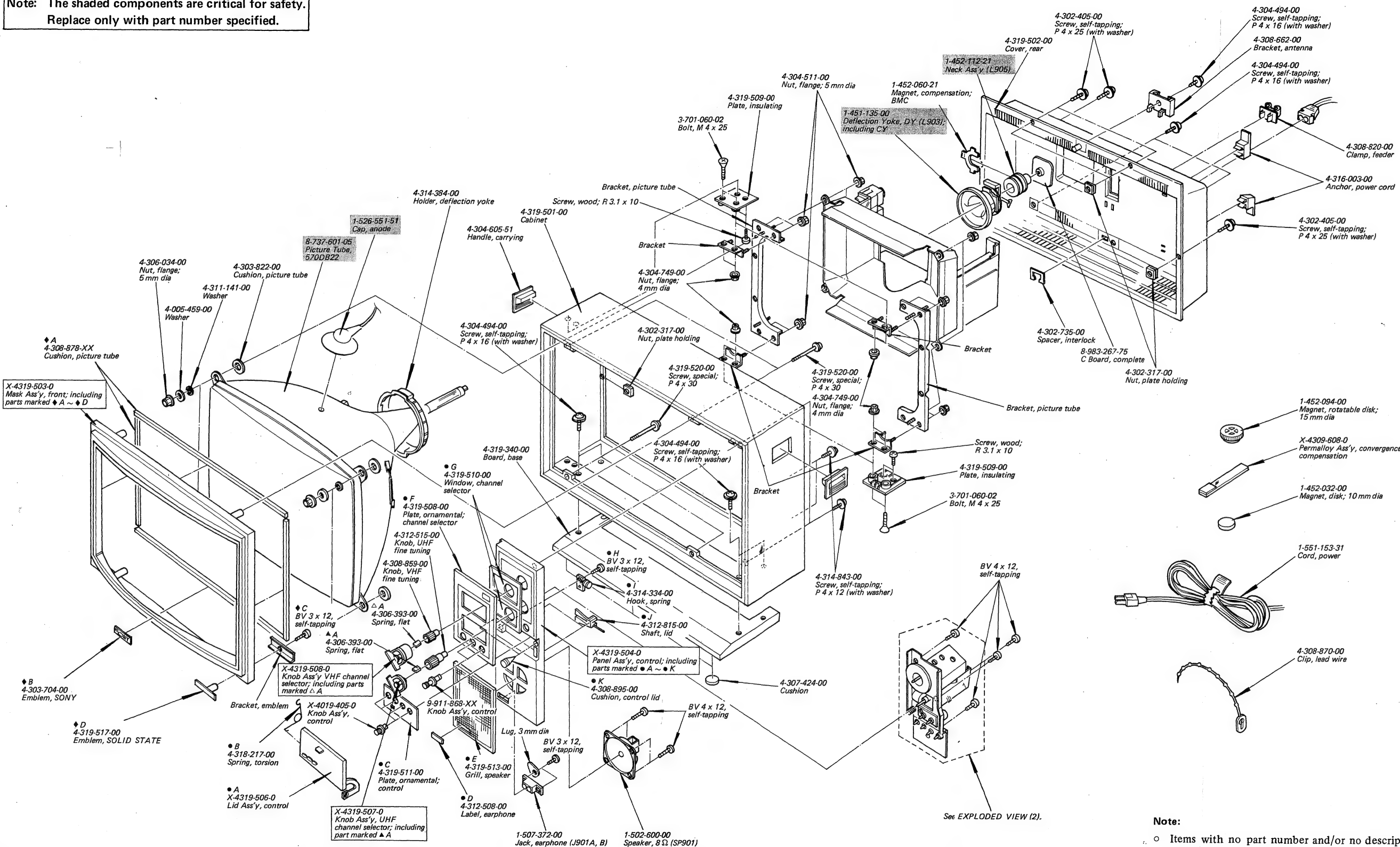
1

2

3

4

5



(2)

1

2

3

4

5

Note:

- Items with no part number and/or no description are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- ◆ : BV 3 x 8, self-tapping.



- Items with no part number and/or no description are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- ■ : BV 3 x 8, self-tapping.



- Items with no part number and/or no description are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- ■ : BV 3 x 8, self-tapping.

A

B

C

D

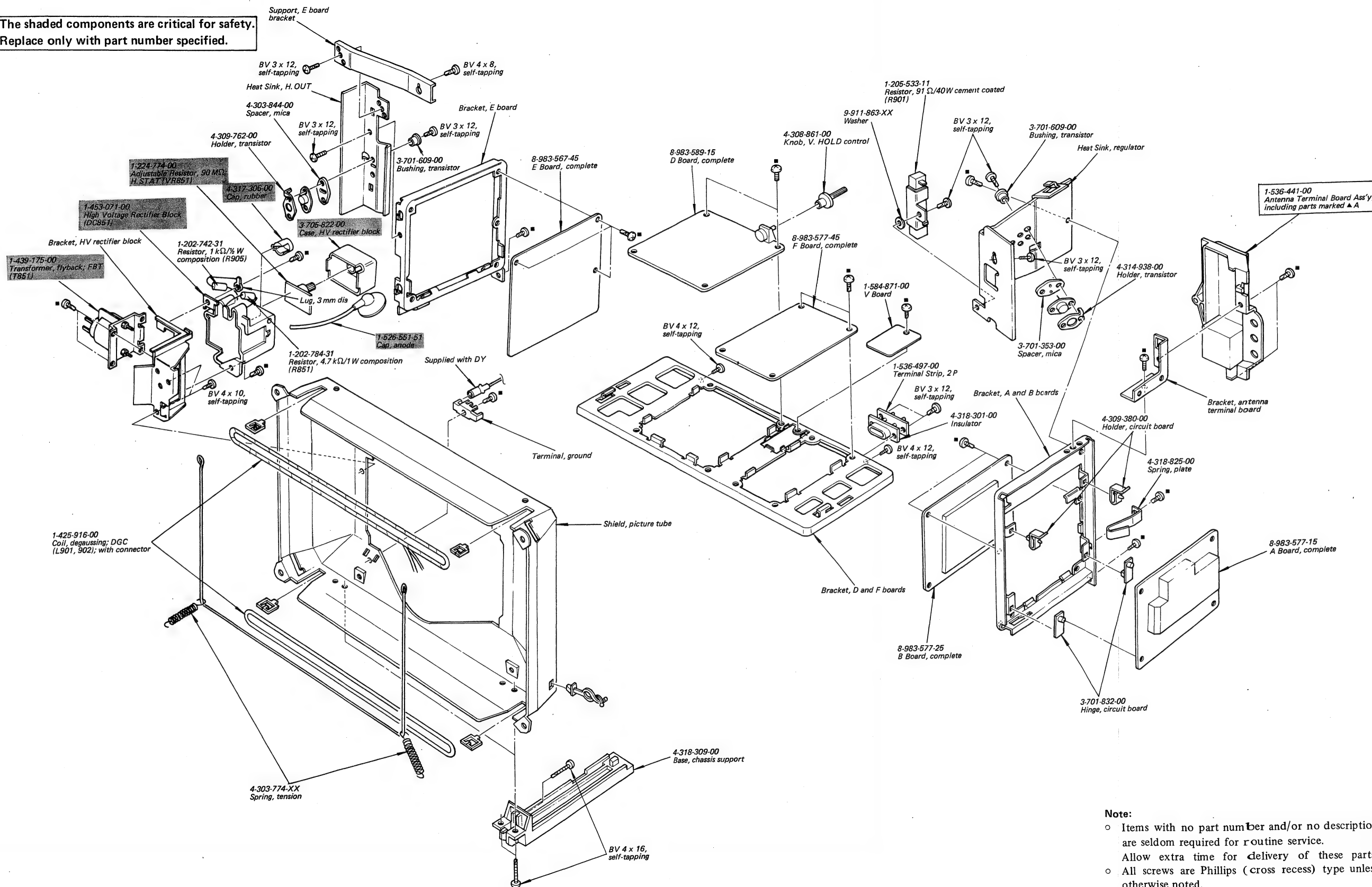
E

F

G

(3)

Note: The shaded components are critical for safety.
Replace only with part number specified.



Note:

- Items with no part number and/or no description are seldom required for routine service. Allow extra time for delivery of these parts.
- All screws are Phillips (cross recess) type unless otherwise noted.
- ■: BV 3 x 8, self-tapping

ELECTRICAL PARTS LIST

⇒ : Due to replacement parts, the values are different on the diagrams.

Note: The shaded components are critical for safety.
Replace only with part number specified.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
T205	1-403-925-00	VIFT-2
T206	1-403-927-00	VIFT-3
T207	1-403-928-00	VIFT-4
T208	1-409-263-00	VIFT-T4
T209	1-403-926-00	VIFT-5
T210	1-403-924-00	VIFT-6
T211	1-409-146-00	4.5 MHz Trap
T213	1-403-871-00	SIFT-2
T301	1-425-784-00	Take-off, TOT
T302	1-425-848-00	Burst Amplifier, BAT
T303	1-425-786-00	Band Pass, BPT
XT601	1-421-302-XX	Line Filter, LFT
T602	1-427-404-00	Sound Output, SOT
T801	1-439-176-00	Horizontal Output, HOT
T802	1-421-320-00	Pincushion Correction, PCT
T803	1-437-065-00	Horizontal Drive, HDT
T851	1-439-175-00	Flyback, FBT
T1501	1-421-245-00	Pincushion Correction, PCT

CAPACITORS

All capacitors are in μF and ceramic type unless otherwise noted. 50 V or less working voltages are omitted except for electrolytic type. (p = $\mu\mu$, elect = electrolytic)

C102	1-121-257-11	4.7	16 V	elect
				(nonpolarized)
C151, C153, 154	1-102-121-11	0.0022		
C155	1-101-586-11	0.75 p		
C156	1-102-519-11	36 p		
C157	1-102-493-11	62 p		
C158, 159	1-102-121-11	0.0022		
C160	1-102-043-11	1000 p	500 V	feed-through
C161, 162	1-102-121-11	0.0022		
C163	1-102-941-11	4 p		
C205	1-121-404-11	33	25 V	elect

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C206	1-102-529-11	100 p
C207	1-101-886-11	62 p
C208	1-102-121-11	0.0022
C209, 210	1-102-676-11	68 p
C211	1-121-651-11	10 16 V elect
C212	1-102-121-11	0.0022
C213	1-121-404-11	33 25 V elect
C214	1-102-121-11	0.0022
C216	1-102-973-11	100 p
C217	1-121-651-11	10 16 V elect
C218	1-102-121-11	0.0022
C219	1-102-973-11	100 p
C220	1-102-858-11	10 p
C221	1-102-121-11	0.0022
C223	1-102-121-11	0.0022
C224	1-102-973-11	100 p
C225	1-102-121-11	0.0022
C226	1-121-651-11	10 16 V elect
C227, 228	1-102-121-11	0.0022
C229	1-121-450-11	2.2 50 V elect
C230	1-108-630-12	0.022 100 V mylar
C231	1-102-114-11	470 p
C232	1-121-391-11	1 50 V elect
C233	1-102-947-11	10 p
C234	1-102-979-11	240 p
C235	1-121-426-11	470 16 V elect
C236	1-101-006-11	0.047
C238	1-102-816-11	120 p
C239	1-101-888-11	68 p
C240	1-102-855-11	15 p
C241	1-102-074-11	0.001
C242	1-101-006-11	0.047
C243	1-102-121-11	0.0022
C244	1-121-651-11	10 16 V
C246	1-108-626-12	0.01
C248	1-121-951-11	0.47
C253	1-102-074-11	0.001
C255	1-108-618-12	0.0022 100
C256, 257	1-102-121-11	0.0022

Note: The shaded components are critical for safety.
Replace only with part number specified.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
C259	1-121-479-11	22	16 V	elect
C261	1-108-638-12	0.1	100 V	mylar
C262, 282	1-102-121-11	0.0022		
C301	1-121-391-11	1	50 V	elect
C302	1-108-626-12	0.01	100 V	mylar
C303	1-108-614-12	0.001	100 V	mylar
C304	1-108-638-12	0.1	100 V	mylar
C305	1-101-888-11	68 p		
C306	1-101-004-11	0.01		
C307	1-102-980-11	270 p		
C308	1-108-638-12	0.1	100 V	mylar
C309	1-102-824-11	470 p		
C310	1-121-391-11	1	50 V	elect
C311	1-101-004-11	0.01		
C312	1-102-512-11	16 p		
C313	1-102-935-11	2 p		
C314	1-121-726-11	0.47	50 V	elect
C315	1-121-952-11	1	50 V	elect
C316	1-121-961-11	4.7	25 V	elect
C317	1-121-990-11	22	16 V	elect
C319	1-102-330-11	390 p		
C320	1-101-004-11	0.01		
C321	1-101-888-11	68 p		
C322	1-102-961-11	27 p		
C323, 324	1-101-004-11	0.01		
C325	1-121-479-11	22	16 V	elect
C326	1-101-004-11	0.01		
C327	1-102-888-11	150 p		
C329	1-101-004-11	0.01		
C330	1-102-121-11	0.0022		
C331	1-102-976-11	180 p		
C332	1-101-888-11	68 p		
C333	1-101-004-11	0.01		
C334	1-102-963-11	33 p		
C335	1-102-962-11	30 p		
C336	1-101-004-11	0.01		
C337	1-121-391-11	1	50 V	elect
C338~340	1-102-114-11	470 p		

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
C341	1-102-973-11	100 p		
C343	1-101-004-11	0.01		
C344	1-121-398-11	10	25 V	elect
C345	1-121-961-11	4.7	25 V	elect
C347	1-121-421-11	220	16 V	elect
C351	1-121-819-11	4.7	50 V	elect
C352, 353	1-121-391-11	1	50 V	elect
C354	1-121-404-11	33	25 V	elect
C355	1-121-416-11	100	25 V	elect
C356, 357	1-121-651-11	10	16 V	elect
C362	1-101-004-11	0.01		
C363	1-102-963-11	33 p		
C402	1-121-415-11	100	16 V	elect
C403	1-102-943-11	6 p		
C404	1-121-404-11	33	25 V	elect
C405, 406	1-102-858-11	10 p		
C407	1-121-391-11	1	50 V	elect
C408	1-102-816-11	120 p		
C409	1-121-409-11	47	16 V	elect
C410	1-121-398-11	10	25 V	elect
C411	1-121-404-11	33	25 V	elect
C412	1-121-402-11	33	10 V	elect
C414	1-102-121-11	0.0022		
C415	1-121-952-11	1	50 V	elect
C451	1-101-006-11	0.047		
C501	1-121-391-11	1	50 V	elect
C502, 503	1-108-622-12	0.0047	100 V	mylar
C504	1-121-245-11	1000	16 V	elect
C505	1-108-630-12	0.022	100 V	mylar
C506	1-108-638-12	0.1	100 V	mylar
C507	1-102-125-11	0.0047		
C508	1-121-738-11	10	50 V	elect
C509A, B	1-108-688-12	0.0047	200 V	mylar
C510	1-123-172-11	2.2	160 V	elect
C511	1-108-696-12	0.022	200 V	mylar
C512	1-121-479-11	22	16 V	elect
C513	1-123-153-11	330	50 V	elect
C514	1-108-640-12	0.15	100 V	mylar

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>			
C515	1-108-638-12	0.1	100 V	mylar	
C516	1-108-618-12	0.0022	100 V	mylar	
C517	1-108-630-12	0.022	100 V	mylar	
C518	1-108-634-12	0.047	100 V	mylar	
C519	1-108-614-12	0.001	100 V	mylar	
C520	1-121-391-11	1	50 V	elect	
C521	1-101-810-11	100 p	500 V		
C523	1-108-694-12	0.015	200 V	mylar	
C525	1-121-391-11	1	50 V	elect	
C526	1-121-970-11	47	16 V	elect	
C527	1-108-632-12	0.033	100 V	mylar	
C528	1-108-624-12	0.0068	100 V	mylar	
C529	1-108-628-12	0.015	100 V	mylar	
C530	1-121-450-11	2.2	50 V	elect	
C531	1-129-927-11	0.015	100 V	polyethylene	
C532	1-121-395-11	4.7	25 V	elect	
C533	1-106-188-11	0.0047	100 V	mylar	
C534	1-102-978-11	220 p			
C535	1-108-638-12	0.1	100 V	mylar	
C536	1-102-989-11	68 p	500 V		
C537	1-121-955-11	10	50 V	elect	
C538	1-121-971-11	100	16 V	elect	
C539	1-121-416-11	100	25 V	elect	
C540	1-108-702-12	0.068	200 V	mylar	
C541	1-121-409-11	47	16 V	elect	
C542	1-121-425-11	470	10 V	elect	
C543	1-108-642-12	0.22	100 V	mylar	
C545	1-101-888-11	68 p			
C546A, B	1-102-233-11	33 p	500 V		
C547	1-108-620-12	0.0033	100 V	mylar	
C548	1-121-391-11	1	50 V	elect	
C556, 557	1-108-632-12	0.033	100 V	mylar	
C558	1-123-177-11	470	25 V	elect	
C559~561	1-108-632-12	0.033	100 V	mylar	
C562	1-121-391-11	1	50 V	elect	
C601	1-108-746-12	0.15	125 V AC	mylar	
C602~605	1-102-189-11	0.0047	150 V AC		
C606	1-125-099-11	560/10/10	200 V	elect	(block)

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>			
C607	1-101-810-11	100 p	500 V		
C608	1-121-726-11	0.47	50 V	elect	
C609	1-101-810-11	100 p	500 V		
C610	1-102-030-11	330 p	500 V		
C611	1-121-396-11	4.7	50 V	elect	
C612	1-121-997-11	33	100 V	elect	
C613, 614	1-121-262-11	10	250 V	elect	
C615	1-108-680-12	0.001	200 V	mylar	
C616	1-123-116-11	1	160 V	elect	
C701	1-105-767-13	0.15	200 V	mylar	
C703	1-108-704-12	0.1	200 V	mylar	
C705	1-130-032-11	0.1	1 kV	polyethylene	
C706	1-102-030-11	330 p	500 V		
C707	1-121-759-11	4.7	250 V	elect	
C708	1-102-327-11	330 p	1.5 kV		
C801	1-108-640-12	0.15	100 V	mylar	
C802, 803	1-123-173-11	100	16 V	elect	
C804	1-101-455-11	0.001			
C805, 806	1-108-626-12	0.01	100 V	mylar	
C807	1-121-656-11	330	50 V	elect	
C808	1-129-997-11	0.47	400 V	polyethylene	
C809	1-123-024-11	33	160 V	elect	
C810	1-108-632-12	0.033	100 V	mylar	
C811	1-108-626-12	0.01	100 V	mylar	
C812	1-102-327-11	330 p	1.5 kV		
C813	1-129-924-11	16000 p	1.5 kV	polyethylene	
C814	1-130-041-11	27000 p	1 kV	polyethylene	
C815A	1-130-051-11	35000 p	1 kV	polyethylene	
C815B	1-129-925-11	33000 p	1 kV	polyethylene	
C816	1-121-759-11	4.7	250 V	elect	
C817	1-129-953-11	0.068	1.5 kV	polyethylene	
C824	1-102-030-11	330 p	500 V		
C901, 902	1-102-327-11	330 p	1.5 kV		
C1501	1-108-640-12	0.15	100 V	mylar	
CV201	1-141-138-XX	8 p		trimmer	

Note: The shaded components are critical for safety.
Replace only with part number specified.

Ref. No. Part No. Description

RESISTORS

All resistors are in ohms. Regular-type ¼ W carbon resistors are omitted. Check schematic diagram for values. All adjustable and variable resistors have characteristic curve B, unless otherwise noted. k = 1000 M = 1000 k

R153	1-244-861-11	330	½ W carbon
R238	1-244-859-11	270	½ W carbon
R365	1-211-417-F1	22	⅛ W carbon (nonflammable)
R401	1-206-485-11	82	2 W metal oxide (nonflammable)
R402	1-206-481-11	56	2 W metal oxide (nonflammable)
R421	1-244-869-11	680	½ W carbon
R422	1-211-933-11	47	⅛ W carbon (nonflammable)
R509	1-206-656-11	470	2 W metal oxide (nonflammable)
R510	1-211-929-11	82	⅛ W carbon (nonflammable)
R511	1-244-875-11	1.2 k	½ W carbon
R512	1-211-930-11	33	⅛ W carbon (nonflammable)
R514, 515	1-212-361-11	1.2	1 W metal oxide (nonflammable)
R520	1-211-360-11	1	1 W carbon (nonflammable)
R521, 522	1-213-141-11	680	1 W metal oxide (nonflammable)
R534	1-213-144-11	1.2 k	1 W metal oxide (nonflammable)
R535	1-206-646-11	180	2 W metal oxide (nonflammable)
R537	1-206-654-11	390	2 W metal oxide (nonflammable)
R538	1-244-837-11	33	½ W carbon
R542	1-213-156-11	12 k	1 W metal oxide (nonflammable)

■ : factory selected value

Ref. No. Part No. Description

R551	1-244-873-11	1 k	½ W carbon
R555	1-213-132-11	120	1 W metal oxide (nonflammable)
R556	1-211-443-11	470	⅛ W carbon (nonflammable)
R561	1-213-130-11	82	1 W metal oxide (nonflammable)
R579	1-202-661-31	4.7 M	½ W composition
R580	1-202-663-31	5.6 M	½ W composition
R589	1-213-144-11	1.2 k	1 W metal oxide (nonflammable)
R591	1-213-138-11	390	1 W metal oxide (nonflammable)
R601	1-205-535-11	1	10 W cement coated
R602	1-213-144-11	1.2 k	1 W metal oxide (nonflammable)
R603	1-244-905-11	22 k	½ W carbon
R605	1-202-643-31	820 k	½ W composition
R606	1-244-915-11	56 k	½ W carbon
R609	1-211-929-11	82	⅛ W carbon (nonflammable)
R614	1-213-125-11	33	1 W metal oxide (nonflammable)
R618	1-213-125-11	33	1 W metal oxide (nonflammable)
R619	1-213-137-11	330	1 W metal oxide (nonflammable)
R620	1-206-682-11	5.6 k	2 W metal oxide (nonflammable)
R622	1-206-700-11	33 k	2 W metal oxide (nonflammable)
■ R629			¼ W carbon
R630	1-244-937-11	470 k	½ W carbon
R702	1-244-891-11	5.6 k	½ W carbon
R703	1-202-615-31	56 k	½ W composition
R708	1-202-641-31	680 k	
R709	1-202-617-31	68 k	
R710	1-202-637-31	470 k	
R711	1-202-647-31	1.2 M	½ W composition

**Note: The shaded component is critical for safety.
Replace only with part number specified.**

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	
R712	1-202-543-31	56	1/2 W
R713	1-202-575-31	1.2 k	1/2 W
R715	1-202-639-31	560 k	1/2 W
R716	1-202-629-31	220 k	1/2 W
		composition	
R720~722	1-206-692-11	15 k	2 W metal oxide (nonflammable)
R723~725	1-202-585-31	3.3 k	1/2 W composition
R733	1-202-637-31	470 k	1/2 W composition
R734	1-202-645-31	1 M	1/2 W composition
R801	1-206-473-11	27	2 W metal oxide (nonflammable)
R802	1-206-642-11	120	2 W metal oxide (nonflammable)
R803	1-210-859-11	1.2	1/8 W carbon (nonflammable)
R804	1-211-401-11	4.7	1/8 W carbon (nonflammable)
R805, 806	1-210-859-11	1.2	1/8 W carbon (nonflammable)
R807	1-205-532-11	3.3	10 W cement coated
R808	1-211-421-11	39	1/8 W carbon (nonflammable)
R809, 810	1-206-475-11	33	2 W metal oxide (nonflammable)
R811	1-244-859-11	270	1/2 W carbon
R812	1-206-469-11	18	2 W metal oxide (nonflammable)
R813	1-217-287-11	1.2	5 W wirewound (nonflammable)
R814	1-213-163-11	47 k	1 W metal oxide (nonflammable)
R816	1-206-676-11	3.3 k	2 W metal oxide (nonflammable)
R817	1-211-945-11	2.2 k	1/4 W carbon (nonflammable)
R818	1-244-897-11	10 k	1/2 W carbon
R820	1-206-696-11	22 k	2 W metal oxide (nonflammable)
R821	1-213-150-11	3.9 k	1 W metal oxide (nonflammable)
■ R822		1/4 W	carbon

■ : factory selected value

※ : to be selected

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	
R851	1-202-784-31	4.7 k	1 W composition
R901	1-205-533-11	91	40 W cement coated
※ R904	{ 1-207-461-11 1-207-467-11 1-207-474-11	{ 0.68 2.2 8.2	{ 1/2 W wirewound
R905	1-202-742-31	1 k	1/2 W composition
R906	1-202-561-31	330	1/2 W composition
VR201	1-224-642-XX	1 k, adjustable; TU.AGC	
VR301	1-224-644-XX	4.7 k, adjustable; ACC	
VR302	1-224-643-XX	2.2 k, adjustable; HUE	
VR303	1-221-389-XX	5 k, adjustable; B. BKG	
VR304	1-221-389-XX	5 k, adjustable; R. BKG	
VR305	1-221-389-XX	5 k, adjustable; G. BKG	
VR306	1-222-512-00	10 k, adjustable; CRT BIAS	
VR351	1-224-583-00	5 k, variable; SHARPNESS	
VR352	1-224-146-00	10 k, variable; HUE	
VR353	1-224-018-00	20 k, variable; COLOR	
VR354	1-224-583-00	5 k, variable; BRIGHT	
VR501	1-224-658-00	20 k, variable; V. HOLD	
VR502	1-222-807-XX	20 k, adjustable; V. SIZE	
VR503	1-221-970-XX	500, adjustable; V. CENT	
VR504	1-221-390-XX	3 k, adjustable; H. SHIFT	
VR505	1-221-982-XX	250 k, adjustable; H. AMP	
VR506	1-224-646-XX	22 k, adjustable; H. FREQ	
VR507	1-221-390-XX	3 k, adjustable; Y. BOW-1	
VR508	1-224-645-XX	10 k, adjustable; PIN BIAS	
VR509	1-221-389-XX	5 k, adjustable; PIN AMP	
VR510	1-224-647-XX	47 k, adjustable; ETC BIAS	
VR511	1-221-389-XX	5 k, adjustable; Y. BOW-2	
VR601	1-224-642-XX	1 k, adjustable; 135 V ADJ	
VR701	1-224-640-XX	330, adjustable; G. DRIVE	
VR702	1-224-640-XX	330, adjustable; R. DRIVE	
VR703	1-224-640-XX	330, adjustable; B. DRIVE	
VR704	1-224-150-00	1M, adjustable; SCRN	
VR705	1-224-173-00	2M, adjustable; FOCUS	
VR801	1-223-020-00	50, adjustable; H. CENT	

Note: The shaded components are critical for safety.
Replace only with part number specified.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
VR851	1-224-774-00	90 M, adjustable; H. STAT
VR901/S901	1-224-710-00	50 k-D, variable; POWER PULL ON/VOLUME
VR902	1-224-259-XX	5 k, variable; PICTURE
MISCELLANEOUS		
CF201	1-527-260-00	Ceramic Filter
DC851	1-453-071-00	High Voltage Rectifier Block
F601	1-532-272-XX	Fuse, 5 A
F602	1-532-271-XX	Fuse, 4 A
J901A, B	1-507-372-00	Jack, earphone
NE701, 702	1-519-127-00	Lamp, neon
NE901	1-519-108-XX	Lamp, neon; POWER/VHF
NE902	1-519-108-XX	Lamp, neon; UHF
NE903	1-519-108-XX	Lamp, neon; AUTO
S351	1-516-473-XX	Switch, slide; AFT
S451	1-514-897-00	Switch, pushbutton; AUTO
SG702~706 SG801	1-519-063-XX	Spark Gap

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
SP901	1-502-600-00	Speaker, 8 Ω
X301	1-527-154-00	Crystal
	1-452-032-00	Magnet, disk; 10 mm dia
	1-452-060-21	Magnet, compensation; BMC
	1-452-094-00	Magnet, rotatable disk; 15 mm dia
	1-526-086-XX	Socket, picture tube
	1-526-551-51	Cap. anode
	1-534-630-00	Coaxial Cable with Plug
	1-534-825-00	Coaxial Cable with Plug (included in antenna terminal board ass'y)
	1-534-885-00	Coaxial Cable with Plug
	1-536-441-00	Antenna Terminal Board Ass'y including; 1-534-825-00 Coaxial Cable with Plug
	1-536-497-00	Terminal Strip, 2-p
	1-551-153-31	Cord, power
	8-737-601-05	Picture Tube, 570DB22

Note: The shaded components are critical for safety.
Replace only with part number specified.

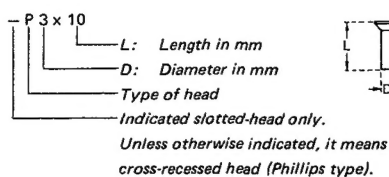
PACKING MATERIALS AND ACCESSORIES

<u>Part No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Description</u>
X-3701-031-4	Warranty Card Ass'y	4-319-545-00	Cushion, right; upper
Y-2063-103-0	Antenna, loop (AN-15)	4-319-546-00	Sheet, protection
1-504-034-22	Earphone (ME-20B)	4-491-039-12	Tag, VHF antenna
3-701-352-00	Bag, polyethylene	4-491-058-12	Tag, eye-catcher
3-701-730-02	Bag, IBM card	4-491-107-22	Safety Tips
3-793-898-21	Tag, material	4-493-214-12	Card, caution
4-319-541-00	Carton	4-495-550-21	Manual, instruction
4-319-542-00	Cushion, left; lower	7-822-282-01	Card, IBM (white)
4-319-543-00	Cushion, left; upper	7-822-282-02	Card, IBM (pink)
4-319-544-00	Cushion, right; lower	7-822-282-03	Card, IBM (green)

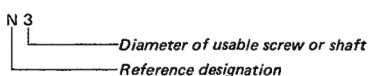
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








HARDWARE NOMENCLATURE














Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	